

**EDUCATIONAL THINKING
IN MODERN INDIA**

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FOREWORD

In his book "*Educational Thinking in modern India*" Shri P. C. Parikh has tried to present a survey of "*Education in India*" through five major sections (1) Pre-independence Period (2) Report of Education Commissions including the Education Commission 1964-66 in Post-Independence Period (3) Education in Advanced and Semi-Advanced Countries (4) Glimpses (CABE meetings, conferences etc.), and (5) Educational India at Present. Thus he has tried to present a comparative idea of Education as it is and as it ought to have been. Thus he has tried to achieve through five phases (1) What we had before independence (2) What we aim at (3) What is achieved in other countries (4) What our policy statements and decisions were and (5) where exactly we are or we stand. Thus he has tried to give a proper perspective to our efforts in education and provide a better understanding of our successes and failures. May be, this may provide to the reader a clue or clues to the solution of our seemingly unsurmountable difficulties.

Whatever else it may achieve, the book is, at least, a source book on education and I welcome it, among other things, from this view-point also. I do hope that it will provide useful reading.

AHMEDABAD
Dt 28-9-1976

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Vice-Chancellor,
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PREFACE

Indian education is on the threshold of reconstruction. The area for a mild attack has been located at the school stage as well as at the non-school sector, in the areas of formal and non-formal education. The curriculum pattern for the school stage has been restructured and enriched (?) by the N. C. E. R. T. and has been on the discussion-anvil. Pilot Programmes of non-formal education have been launched. It is hoped that curricula at the higher education stage will be upgraded in due course. Serious thoughts are being given to the need for vocationalisation of education. All this has come as a fruit of national thinking during the educational history of modern India, especially during the Post-Independence period.

During this period, India has come out on the international platform as new potential. The march of the Indian economy towards self-reliance under the leadership of Nehru, Shastri and Shrimati Gandhi in face of all natural and man-made odds and inhibitions and the effective advocacy of Gandhian ideals of *Sarodaja* and World-fraternity by Nehru and Shrimati Gandhi on the international political platform have brought recognition to India as a catalyst and widener of the area of World-peace, as a promoter of functional programmes of self-respectful march towards co-operative self-reliance of and among the nations of the so-called Third World, and as one of the powerful agents of international non-alignment and evaporation of tendencies of exploitation, neocolonialism and nuclear armament maintaining international hot-lines.

We have to be conscious of all this and to realise that what India does will be observed by other nations of the World and will have direct or indirect impact on the developing nations. In this situation and at a time when we recognise education as a powerful agent of socio-economic change and national reconstruction, it is high time that we appreciate the need for total educational revolution which should ensure functional education in context to the manifold national needs. No patch reform will meet this need. We must recognise educational programmes as programmes of national investment in man rather than welfare programmes. In this context we should expose ourselves to the

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Educational Thinking In Modern India

Pre-Independence Period

1 PRE-INDEPENDENCE PERIOD

Our present system of education has been continuously criticized as elitist and dysfunctional since India emerged as a sovereign republic nation on the international platform. Its literary nature had been first criticized in 1882 94 years ago, by the Hunter Commission in their Report submitted to Government only 50 years after Lord William Bentinck's communique which was epoch making in the educational history of India in as much as it planted the roots of what we call modern Indian education. The history of modern Indian education begins with this historical communique which was issued as a consequence of Macaulay's minute regarding the educational policy of the future. The communique stated 'That the European Literature and science among the natives of India should be encouraged and that all the funds appropriated for the purpose of education would be best employed on English Education alone'. The communique rang the death bell of the indigenous educational system of India as well the institutions of learning for the survival of oriental culture the very essence of age old Indian civilization. It gave birth to new types of schools, controlled by the Government.

These schools became immediately popular because of the great interest shown in English education by some of the educated Indians and more particularly by leaders like Raja Ram Mohan Roy and others. Thus for the first time in the educational history of India, education became subjected to Government control rather than remaining a community affair. The syllabus were to be prescribed by the Government teachers were to be appointed as per standards laid down by the Government schools were to be formally built in as desired by the Government and schools were to be supervised and inspected by the Government. In consequence thereof education became limited in scope and purpose. It was imparted with the limited purpose of preparing pupils to join the service and not for life. In these new schools the standard of achievement in literary subjects was from the very beginning high but little or no progress was made in training the pupils in the practical side of science. Schooling period was divided into primary stage and secondary stage as per service requirements for public administration and not as per requirements of individual growth of children. Some of the defects persisting in our education to day owe their origin to the policy pursued by the British Government in India. These defects are symbolized by the term 'white-collared education'.

Recommending that a number of high schools should be set up the Wood's Despatch observed in the year 1854. Our attention should now be directed to a consideration if possible still more important and one

which has been hitherto, we are bound to admit, too much neglected, namely, how useful and practical knowledge suited to every station of life, may be best conveyed to the great mass of the people who are utterly incapable of obtaining any education worthy of the name by their unaided efforts; and we desire to see the active measures of Government more especially directed for the future to this object, for the attainment of which we are ready to sanction a considerable increase of expenditure."

This despatch of Sir Charles Wood to the Court of Directors of the East India Company in 1854 has been described as 'the Magna Charta of English Education in India'. In the words of Dr. A. Laxmanswami Mudaliar, "It enunciated the aim of education as the diffusion of the arts, science, philosophy and literature of Europe. It was emphasized that the study of Indian languages should be encouraged, that the English language should be taught wherever there was a demand for it, and that both the English and Indian languages were to be regarded as the media for the diffusion of European knowledge."

The court of Directors felt that the time had arrived for the establishment of Universities in India which might encourage a regular and liberal course of education by conferring academic degrees as evidence of attainment in the different branches of arts and science. Accordingly, the three Universities of Bombay, Madras and Calcutta were created in the year 1957, on the model of the London University with a Chancellor, Vice-Chancellor and Senate. The same model continues even to-day after 119 years and after more than 28 years of Independence. With all regards for Cardinal Newman's idea of University, we must admit that the elitist pattern of our university education has cost us heavily and does not meet the present national needs, felt in various important sectors of our national life and growth.

The establishment of universities in the year 1957 had far-reaching consequences, especially on content, range and scope of secondary education. The universities dominated secondary schools in every respect. Secondary education, instead of being a self-sufficient course preparing students to enter life after completing the course became merely a step towards the university and university colleges with the result that schools could not function with an independent programme of their own. The mother-tongue was completely neglected as a medium of instruction; nothing was done to train teachers for the secondary schools; and the courses of study became too academic and unrelated to life mainly because there was no provision for vocational or technical courses.

In the year 1882 the Education Commission known as the Hunter Commission, was appointed by the Government to report on the whole question of education in the country. The report of this commission is a valuable document which not only gave an excellent survey of the position of secondary schools at that time but made certain fundamental recommendations concerning the type of education to be given at this stage. It anticipated what has come to be recognised later as diversified courses of instruction in the secondary stage of education. With regard to vocational and technical education the commission recommended that in a particular class of high schools there should be two avenues one leading to the entrance examination of the university and the other of a more practical character intended to fit the youth for commercial vocational or non literary pursuits.

In spite of such specific recommendations neither the public nor the Government could appreciate the value of the suggestions with the result that the recommendations were practically ignored and the academic elitist nature of secondary education continued. In the words of Dr A Lakshmanswami Mudaliar who spoke during his Dadibhu Naoroji Memorial prize fund lectures, "One wonders however what may have been the future of education in India if these recommendations had been implemented and if diversified courses of instruction suited to the particular aptitudes and talents of the pupils concerned had been instituted and worked with sympathy and understanding. Nearly seventy years later a similar recommendation has been made by another commission when much valuable time had been lost and when opportunities had been ignored to improve not only the standards of achievement of the pupils concerned but also the industrial expansion of the country through trained personnel at the various levels of employment."

In 1902, the Governor General in Council appointed the Indian Universities Commission. The opportunities offered by the report of this Commission was waived off by the Government of India to introduce in the supreme council. The Indian Universities Act more popularly known is the Curzonian Act of 1904. This act increased enormously the control of Government over University matters affiliation of Colleges etc, and made the University virtually a department of state. Besides as a result of the recommendations of this commission secondary education came to be even more under the domination of the universities for under the Indian Universities Act 1904 schools had to be recognised by the Universities and rules and regulations were framed for this purpose. The domination of the universities over the secondary education continued directly till the establishment of separate Boards of Secondary

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Education and of Secondary School Leaving Examination in the States and the same continues indirectly even at present in as much as we have not yet attained the goal of technical pattern of secondary education in India, with the result that the secondary school leaving certificate examinations are yet popularly treated as the threshold to be passed over for entry to a class-room of university education. Certain States, of course, felt this domination of the universities over secondary education and felt that an attempt should be made to see that secondary education was conducted independently of the universities and set up Boards of Secondary Education which were responsible for laying down syllabii and for conducting examinations at the school final stage. Such a board was far from emergence in the Bombay presidency of which the territories of Gujarat constituted a part, with the result that, till the establishment of Secondary School Certificate Examination Board after Independence, the University of Bombay continued holding Matriculation Examination which was admitting the candidates of the final year of the high schools.

In 1917, Government of India appointed a Commission, under the chairmanship of Sir Michael Sadler, for holding an enquiry of a comprehensive character into the problem of the Calcutta University. The Commission presented a voluminous report in 1919 dealing with many problems of secondary and university education. The Commission held a view that the improvement of secondary education was essential for the improvement of university education. This view also falls in the same past line of thinking that secondary education was a feeding ground for universities. However, some of the recommendations of the commission which remained ignored for many years to follow and which were repeatedly re-iterated by the following commissions, conferences, educationalists and other central bodies in the womb of future at that time, have supporting relevance to the present Indian educational thinking. They are reproduced below :

"1. The dividing line between the university and secondary courses is more properly to be drawn at the Intermediate examination than at the Matriculation.

2. Government should, therefore, create a new type of institution called "the intermediate colleges" which would provide for instruction in Arts, Science Medicine, Engineering, Teaching, etc; these colleges might either be run as independent institutions or might be attached to selected high schools.

3. The admission test for universities should be the passing of the Intermediate Examination.

' 4. A Board of Secondary and Intermediate Education consisting of the representatives of Government, University, High schools, and Intermediate colleges should be established with the powers for administration and control of secondary education."

Thus, for the first time in the educational history of India, a Commission had recommended the attachment of Intermediate classes to the high schools and the setting up of a Board of Education to control high school and Intermediate Education. For the first time, a commission had recommended maturer age for the entry to university education-a recommendation which was to be re-iterated, in the newer context, by the University Education Commission after about 30 years. For the first time, a commission had recommended upgraded secondary education which came to be recommended by another Education Commission, after about 47 years in the form of Higher Secondary Education. Had these recommendations been accepted by the Government and the public with comprehensive vocational bias broader than merely medicine, engineering and teaching at that time, the picture of this nation would have been quite different at present, in regard to economic welfare, problem of educational unemployment and the pivotal national task of rural reconstruction. Non-materialisation of these valuable recommendations in India, with the exception of the then United Provinces, should be considered our national misfortune which had to be helplessly endured by us in pre-independence period and which could not attract the consideration of the architects of our newly liberated nation whose enthusiasm for free, compulsory and universal education could not spare enough money for this overdue national venture.

The Indian Industrial Commission (1916-18) stressed the need for reducing growing pressure on the universities consequent upon the development of secondary education. The commission deplored inadequate provision of industrial education. Secondary education during 1921-1937 developed considerably in rural areas also. The depressed classes and the women also began to enroll themselves in secondary schools. The number of secondary schools increased from 7539 to 13054 during this period. Mother-tongue was gradually recognised as the medium of instruction. However, education continued to remain literary.

In 1929, as auxilliary to the Indian Statutory Commission, a committee was appointed to review the position of education in the country. This committee is popularly known as Hartog Committee. In the opinion of this Committee, the Matriculation of the university still dominated the whole of the secondary course. In order to obviate this defect, the

Committee recommended that a large number of pupils intending to follow certain avocations should stop at the middle school stage. There should be 'more diversified curricula in the schools'. The Committee also recommended 'diversification of more boys to industrial and commercial careers at the end of the middle stage, preparatory to special instruction in technical and industrial schools.' The recommendations of this Committee also, more or less, 'met the same fate as those of the Sadler Commission.

The Government of the United Provinces appointed the Sapru Committee in 1934 which enquired into the causes of unemployment in U. P. and came to the conclusion that much of the unrest was primarily due to mass unemployment and that the system of education commonly prevalent prepared pupils only for examination and degrees and not for an avocation in life. 'In a situation like this,' the Committee remarked, 'the real remedy is to provide diversified courses of study at the secondary stage and to make that stage more practical and complete in itself, and more closely related to the vocational requirements of different types of students. At the secondary stage, side by side with the general course leading to the university, there should be parallel courses offering instruction in technical, commercial, industrial and other vocational subjects.'

The main suggestions of the Sapru Committee are enumerated below —

1. Diversified courses at the secondary stage should be introduced, one of these courses leading to the university degree;
2. The Intermediate stage (in U. P.) should be abolished and the secondary stage be extended by one year; the secondary stage to consist of six years to be divided into two, the higher and the lower, each covering a period of three years, the whole course thus covering 11 years, 5 for the primary and six for the secondary; the general course to be of 8 years i. e. upto the lower secondary course;
3. Vocational training and education should begin after the lower secondary stage;
4. The Degree course at the university should extend over a period of three years.

The recommendations of the Sapru Committee sound like a prologue to the Secondary Education Commission which was to offer recommendations on reconstruction of Secondary education about 30 years later. Needless to comment upon the consideration lent by the Government to these valuable suggestions.

In 1936-37, two expert advisers, Messrs. Abbot and Wood were invited to advise the Government 'on certain problems of educational reorganisation and particularly on problems of vocational education'. One important result of their recommendations has been that "a new type of technical institution called the 'Polytechnic' has come into existence. The provinces also started technical, commercial or agricultural high schools conducting non-literacy courses.

During these years the nationalist movement was getting momentum under the worthy leadership of Mahatma Gandhi, Father of the Nation. On return of Gandhi from South Africa to India, arousal of national consciousness and mode of freedom movement took a new constructive, yet, potential turn. Gandhi gave broader connotation to the freedom movement and endeavoured hard and in a non-violent and austere manner to apply the national movement to the whole of national life. His definition of freedom has social, economic, religious, cultural and political connotation. His prophetic vision could glance over the achievement of political independence and could feel the post independence needs of the nation. He was not so much interested in mere political freedom from the yoke of alien rule as he was in the real freedom of every man and every woman of India from socio economical religious and cultural bondages. He, therefore, preached dignity of every human being, non violence, tolerance, equality, and self-help. It was to realise this ideal that he made the spinning wheel the emblem of the freedom movement. His entire constructive programme and swadeshi movement were the logical consequences of this ideal. No aspect of human life remained untouched by or could escape his comprehensive vision of real national welfare. And in the year 1937, the enunciation of the principles of Basic Education by him came as an essence of his life long thinking for what was in the best interest of the nation. National schools and national institutions of higher education had already begun to be set up by his followers in the twenties of this century. Such institutions like Gujarat Vidyapith and Vishva-Bharti came up as models which the nation should follow instead of following the much criticized white collared, literary, dysfunctional educational pattern set up and developed by the alien Government. The worthwhile national scheme of Basic Education was proclaimed by him in later thirties. The scheme was based on the situational reality of India which, after achieving independence, had to take and preserve her high status as the greatest democracy among the comity of nations. Gandhi valued democracy more as a way of life than as a sort of political structure. Democracy, as a way of life, presupposes certain fundamental behavioural attitudes on the part

of every citizen of the nation who gets the fundamental right to rule the country through meaningful and conscientious utilization of his vote. Such behavioural attitudes can be cultivated through appropriate system of education. Gandhi could also realise the limitations of the system of education in vogue and could foresee the havoc it would play in the post-independence India in the form of the gap between the rich and the poor, the elite and the ignorant, political exploitation of illiterate masses, educated unemployment in a vastly populated country, brain-drain from village to cities, exploitation of women, communalism and casteism, disghust towards manual work etc. He, therefore, promulgated his philosophy of education based on his lifelong mission of national constructive programme, ideal of *Sarvodaya*, and labour concentrated national and economical reconstruction. His scheme of education laid great stress on dignity of labour and self-help. 'Mother-tongue must be the medium of education,' he affirmed. Craft was the core in the new pattern of basic education. Knowledge should be correlated with the craft and the natural, social and vocational environment with which the children live. Productive craft had such a high place in his scheme as to make the schools self-supporting, in meeting the teacher cost. Social education, too, was a part of his scheme of education. Gandhi wanted to see every child and every citizen of the country educated in this true sense of the term. He wanted to see every school standing and developing firmly on the principle of self-help. Involvement of the community in achieving this target was understood in the scheme itself, if we interpret the scheme of basic education in context with his philosophy of national development. Gandhi's proclamation of the scheme of basic education created a great controversy and serious thinking on the part of educationists simultaneously. The scheme was given serious attention and consideration by the Governmental bodies as well as by the followers of Gandhi. Dr. Zakirhusen Committee, 1939 considered the scheme from various angles and affirmed the fundamental principles of the scheme. Basic education was defined as education for life, through life. The seeds of life-long education for life advocated by the International Commission on the Development of Education, appointed by UNESCO in 1971 can be found in Gandhian approach to education.

The second Wanha Committee of the Central Advisory Board of Education gave very careful consideration in 1939 to the relationship of High schools to the Basic System of education, and recommended that pupils at about the age of eleven plus should, on completion of the fifth class of Junior Basic (primary) schools, be diverted either to

Senior Basic (Middle) or to High schools, according to their abilities and aptitudes

Popular Governments in the year 1939 were keen on giving trial to the basic scheme of education which was popularly known as Wardha Scheme of education. Basic schools were started in the then Bombay Province under the devoted care of Bala Sahib Kher, the then Chief Minister and also the Education Minister of Bombay Province. Though the out break of World War II could not allow this experiment of great national value to develop through Governmental impetus, Gandhi's followers caught this new philosophy wrote a lot in favour of the fundamental principles of Basic Education and engaged themselves in this new experiment at various places in the country. They evolved and practised the new pattern of Basic Education covering all stages of education, from pre basic to mithavidiyalaya. In this pattern, post-basic schools were parallel high schools i.e secondary education stage.

Gandhi fought the battle of freedom on a highly moral plane and his entire progress was aimed at national reconstruction through rural reconstruction and self sufficiency, thus, undermining political and economic stranglehold of the British over Indians. He wanted to free Indians from mean dependence on foreign goods, foreign language and foreign elitist way of life.

Gandhian approach to education could not be given fair trial at the Governmental level. Wherever it was followed by voluntary nationalist agencies, the programme sponsored in 1939 was rigidly adhered to. Gandhi did not mean rigid implementation of his scheme of education. As his disciple, Acharya Vinoba Bhave spoke later 'Basic Education is 'Nitya Dai Talim' - everchanging, flexible and ever fresh in the changing contexts. It is not something dogmatic, something rigid, something crystallised, so that what lesson is taught in one year is repeated like notes in subsequent years. That would not be basic education. The basic school teacher has to carry on experiments endlessly. If you teach one lesson today, tomorrow perhaps you will teach it in a different way because the context has changed. One cannot isolate oneself from what is happening in the village or in the district, in the state or in the country or in the world. Therefore, it has to be everchanging education, new, ever new - that is the beauty of Basic Education. The scheme was thus based on sound educational principles which have been recently enunciated by the International Commission on the Development of Education. It is our deplorable national misfortune that the real spirit of the scheme of basic education could not be kept in constant view by those who tried to implement it, that though

accepting in principle as the national scheme of education, the measures of the Government to implement the scheme remained half-hearted throughout, except at few places, where voluntary bodies took up the cause, with the result that (1) the same elitist literary system of education from primary to University stages continues even today, (2) rural reconstruction of Gandhian imagination remained far from reality, (3) development of human as well as material equipment of schools depend on governmental purse, (4) India has noticed unchecked process of heavy urbanisation, (5) rural leadership could not flourish; rural small scale industries and handicrafts could not get due impetus, (6) dignity of labour and harmony into family and community life appear to be dead dreams of the past, (7) national savings have to be spent away for import of food grains to feed our evergrowing population, and (8) the gigantic problem of evergrowing educated unemployment or under-employment with the antisocial and hostile attitudes of youths become graver every year.

In the year 1944, the Central Advisory Board of Education submitted to the Government the Report on post-war Educational Development in India. This report is popularly known as the Sargeant Report. Paying tribute to the scheme of Basic Education, the report remarked — 'Basic Education from 6-14 is an organic whole and will lose much of its value, if not so treated; in any case an education, which lasts only five years and ends at about the age of eleven, cannot be regarded as an adequate preparation either for life or livelihood.' The main recommendations of the Board in this area are as under

(a) A system of universal, compulsory and free education for all boys and girls between the ages six and fourteen should be introduced as speedily as possible though in view of the practical difficulty of recruiting the requisite supply of trained teachers it may not be possible to complete it in less than forty years.

(b) The Senior Basic (Middle) School, being the finishing school for the great majority of future citizens, is of fundamental importance and should be generously staffed and equipped.

(c) A vast increase in the number of trained women teachers will be required.

Regarding high school Education the Report stated. "It has been well said that the chief purpose of higher education is to form an élite not for its own sake but for that of society. Character and intelligence, which are the essential attributes of any élite, are not confined to any particular class in the community, hence the selective principle by which chil-

dren should be picked up for higher education on completion of the Junior Basic (Primary) stage is of the greatest importance At present, admission to high schools is mainly determined by whether parents or guardians are in a position to pay the fees, little trouble is taken to ascertain whether those who seek admission are likely to derive full benefit from a high school education Moreover, the high schools tend to regard all middle schools as potential feeders and there is hardly any attempt to differentiate between the middle school education which is meant to be a complete stage in itself, and that which is designed to prepare pupils for high schools " The same analogy can be applied to the high school and university education at present

The Board contemplated that in future the high school course will cover six years from about the age of eleven It will, therefore, cover the middle stages so far as those children are concerned who are selected for admission to high schools The Board further stated It has been generally accepted that with the adoption of the three years' degree course in universities and the disappearance of the Intermediate stage, the high school course will in future cover six years or equivalent of classes VI-XI in most provinces "

Observing that in 1940-41, out of 3861 high schools in British India, 2310 were located in urban areas, although the total population of these areas only amounted to one tenth of the whole, the Board took cognizance of the uneven distribution of high schools in urban and rural areas and advised " The high school with an agricultural bias has indeed the most important part to play in the new system It will not only contribute towards improvement in agriculture and rural uplift generally but it will also be the recruiting ground for the teachers whom the rural basic schools will require in large numbers "

The Report contained valuable advice and caution note in the statement 'High school education should on no account be considered simply as a preliminary to University education but is a stage complete in itself While it will remain a very important function of the high schools to pass on their most able pupils to universities or other institutions of equivalent standards, the large majority of high school leavers should receive an education that will fit them for direct entry into occupations and professions At present, there is a tendency for the high school curriculum to be unduly dominated by the requirements of universities In a well organised system of public education only about one in ten to fifteen of the high school leavers will go on to universities Consequently, the high schools should attach the utmost importance to

preparing the great bulk of their pupils who will not proceed to the Universities, for entry into useful and remunerative employment of all kinds immediately on leaving school. It is to be hoped that in the near future, with the development of a higher standard of a high school education a school leaving certificate, supplemented where necessary by future training of a technical or commercial type will come to be regarded as a more normal qualification than a university degree for entry to all but the highest grades both in Government service and business life. A changed outlook of this kind will demand a thorough overhauling of the present organisation and curriculum of high schools. Since it is now generally accepted that there is no special road leading to culture and that a boy or a girl can become educated in the real sense as easily through the medium of a course in technology or applied science as though one in arts the task of harmonising cultural and vocational education ceases to present serious difficulties. It is essential that some kind of occupational interest or bias should enter into the later stages of the high school courses. At present almost all schools follow the beaten track as laid down by universities and examining bodies and there is little variety in the scope and scheme of studies."

The Sargeant Report visualised two main streams in high school programme 'The recognised high schools should be of two main types (1) the academic high schools and (2) the technical high schools. To adopt a broad but by no means rigid differentiation, the academic high schools will impart instruction in the arts and pure sciences while the technical high schools will provide training in the applied sciences and in industrial and commercial subjects. In both types the courses in the Junior departments covering the present middle stage will be very much the same and there will be a common core of humanities throughout. Art and music should form an integral part of the curriculum in both and all girls should take a course in domestic science. The proportion of school in the two types will be mainly determined by the character of the locality and the nature of the employment which it offers. Where the population in a particular area will admit the existence of a number of high schools, there ought to be a sufficiently large variety of schools to cater to the needs of the locality as well as for the aptitudes of the pupils. Transfer from one type to the other should be made as easy as possible at any rate upto the end of the Junior course. In smaller centres, which can only be served economically by single high schools the individual should be required to offer as wide a choice of courses as possible. In rural areas where pupils are likely to take to

agriculture on their own farms or elsewhere, an agriculture bias should be given to the curriculum. While the needs of the area will be the dominant factor in deciding what type of schools and what variety of courses should be provided, it should not be forgotten that many pupils will benefit most from a practical course, even though they may not be desired for an industrial or commercial career."

"The medium of instruction in all high schools should be the mother tongue of the pupils. English should be a compulsory second language. All pupils should also acquire some knowledge of Mathematics and Elementary Science. Physical Training should be obligatory. It may not, however, be desirable to draw any rigid distinction between what may be called compulsory and optional subjects. The range available should be as wide as circumstances permit and subject to the same proviso the individual pupil's course should be settled in the light of his own aptitudes and interests and of the requirements of his probable future occupation."

The Report listed the range of subjects for both the streams as under

ACADEMIC HIGH SCHOOLS

1. The Mother Tongue
2. English
3. Classical languages
4. Modern languages
5. History (Indian and world)
6. Geography (Indian & World)
7. Mathematics
8. Science (Physics, Chemistry, Biology, Physiology & Hygiene)
9. Economics
10. Agriculture
11. Civics
12. Art
13. Music
14. Physical Training.

TECHNICAL HIGH SCHOOLS

1. The mother tongue
2. English
3. Modern Languages
4. History (Indian & World)
5. Geography (Indian & World)

6. Mathematics
7. Physics
8. Chemistry
9. Biology
10. Economics
11. Technological subjects (Wood & Metal work, Elementary engineering, machine drawing, etc.)
12. Commerce (book-keeping, short-hand, typewriting, accountancy, commercial practice, etc.)
13. Agriculture
14. Art (including designing for industrial and commercial purpose)
15. Music
16. Physical training.

Enlightening the goals of university education, the Report stated: "A university aims at raising the intellectual tone of society, at cultivating the public mind, at purifying the national taste, at supplying true principles to popular aspirations, at giving enlargement and sobriety to the ideas of the age, at facilitating the exercise of political power and refining the intercourse of private life." In the light of this, the Board commented "Indian universities, as they exist today despite many admirable features, do not satisfy the requirement of a national system of education." Recommending upgraded standard for admission to university education, the Board hoped that the proposed reorganisation of the high school system would facilitate this. The Report strongly recommended abolition of the Intermediate course and stated, "Ultimately the whole of this course should be covered by the high school but as an immediate step the first year of the course should be transferred to high schools and the second to universities" and stressed that the minimum length of a university degree course should be three years. The Board also recommended constitution of Indian University Grants Committee.

The Sargent Report, thus came as a landmark in the history of educational thinking in India. One can find in it the impact of the Gandhian philosophy on Education. Besides, the recommendations regarding upgraded high school education and three-year degree course in University, made thirty two years ago, sound like fresh recommendations and present national policy without the use of the term 'Higher secondary Education.' In the then Bombay Province, University education teaching to first degree in Arts, Science or Commerce was of the duration of four years divided into two parts: (1) First year and Intermediate

year-(2) years and (2) Two years' degree course. In the U.P. where high school education ended with the Tenth class, the pattern of higher education was two years of Intermediate Education and two years of First Degree university education. U.P. was thus following 10 + 2 + 2 pattern. Bombay pattern was, in essence, 11 + 2 + 2. The Sargent report realised futility of Intermediate education and advised to dissolve that stage by diverting one year to high school and one year to Degree course. The Report, thus, essentially suggested the pattern (12 + 3) which has become to-day a hot bed of controversy through vested interests, irrespective of what is in the best interest of the pupils. Had the advice of the Board been accepted at the moment or at the moment when the architects of free India sat to consider educational policy, the picture of the educational and economic world of India would have been quite sound and functionally effective in strengthening this new-born greatest Democracy of the world.'

This comprehensive Report, laid great stress on pre-primary and adult education. About adult education the Report stated : "Literacy is a means, not an end in itself. Although the main emphasis in the beginning may be placed on the liquidation of illiteracy, adult education in the full sense must be provided for those already literate. The amount of this should progressively increase as illiteracy disappears." It thus gave a broader connotation to the term Adult Education. The main conclusions of the Board on Recreational and Social Activities were as under :

(a) The provision of recreative and social activities on an adequate scale is an essential feature of any modern educational system.

(b) Apart from the needs of boys and girls in schools and colleges, special attention should be paid to those in the 14-20 age group who are no longer attending school. To serve this a youth movement on an all India basis should be set up.

(c) A youth movement should aim at co-ordinating and supplementing the work of organisation already dealing with aspects of this problem.

(d) The main need of a youth movement will be for leaders, both men and women, who will have to be specially trained.

(e) The provision of social and recreative facilities for adults should form an important part of any social service scheme.

The report includes valuable recommendations on technical, commercial and Art Education, which are enumerated below :

(1) In view of the recent expansion of industry and the likelihood

of further development after the war it is necessary to plan immediately a comprehensive system of technical education at all stages.

(2) The function of Technical education may be described as two-fold : (a) to meet the needs of industry and commerce for properly trained workers of all grades and (b) to provide a suitable form of education for those boys and girls whose natural abilities can best be developed by instruction on practical lines.

(3) Technical Education should be regarded as an integral part of any educational system and in no way inferior to education of the academic type.

(4) Education from the earliest stages should be given a more practical character, and curriculum should aim at making boys and girls familiar with practical as well as academic subjects.

(5) Technical education must include commercial education and art in relation to industry.

(6) Agricultural education should be regarded as an essential branch of technical education. Senior Basic (Middle) as well as High Schools in rural areas should have an agricultural bias. (The Post-Basic School pattern).

(7) In view of the great importance of agricultural education for this country, a special committee of educational and agricultural experts should be set up to consider the subject fully.

(8) In order to provide suitable instruction and training for different types of workers required, there should be the following main types of technical institutions :

- (i) Junior technical or Industrial or Trade Schools,
- (ii) Technical High schools,
- (iii) Senior Technical Institutions.

(i) and (ii) will normally provide full-time instruction preparatory to employment, while (iii) will also provide part-time instruction for those already in employment.

(9) The type and duration of part-time instruction should be determined in consultation with employers and accordingly to the needs of the locality. It is desirable that part-time classes should be held during the day rather than in the evening.

(10) Wherever circumstances permit, polytechnics are to be preferred to monotechnics.

The Sargent Report on 'Post - War Educational Development in India' will ever be revered by future educational historians for its

honest, unassuming and pointed exposition, insight and comprehensive nature. It was the first attempt in the educational history of India to weigh the educational problems and needs of the country at all stages of education in an objective and comprehensive way.

The Report did not receive due consideration because of war and the national struggle for freedom during the forties. In the post-war dialogue between the British Government and national leaders for liberation of India from alien rule the Sargeant Report was shelved, never to be re-opened either on the table of the Union Minister of Education or at any educational platform by any one after independence. Instead of devoting our attention to the valuable suggestions incorporated in the Sargeant Report, the Nationalist Government thought it wise to appoint commissions and committees and to hold Seminars and Conferences during the post-independence history of Indian education.

However, as Laxminarayanan Mudaliar spoke during his Dadabhai Naoroji Memorial prize fund lectures, "One other all India body set up to deal with many of the problems connected with education in India is the Central Advisory Board of Education which meets annually and discusses problems connected with all grades of education. This body was set up as a result of the report more popularly known as the Sargeant Report after Sir John Sargeant, then Educational Advisor to the Government of India. The Report itself is a notable document which laid stress on all aspects of education from the elementary to the University grade. The Board is composed of representatives of the Governments of the States and of the Centre, of the Legislatures and of varied interests; there are two representatives of the Inter-University Board included in that Body. The Board meets every year under the Chairmanship of the Minister of Education at the Centre. Many of the reports of all India commissions have been considered by this body and valuable recommendations have been made. Although this body is not a statutory body, its influence on State Governments is expected to be of considerable importance."

Yet another body that was created before the era of Independence is the All India Council for Technical Education, in 1946 at a Conference convened by the Member for Education and representatives of varied interests, viz. the Departments of Central Government which were represented through their Secretaries, the industries, labour, principals of technical colleges, representatives of Universities and some of the legislators. The deliberations of this conference finally ended in recommendations being made for

- (1) the starting of four regional higher technical Institutes;
- (2) greater emphasis to be given to technical education;
- (3) the constitution of an All-India Council for Technical Education;
- (4) the formation of a co-ordinating committee to review from time to time the progress of technical education and
- (5) a certain amount of devolution of responsibility through the constitution of Regional Committees.

"It must be stated that this excellent start has been followed by very material progress in the sphere of education; and if similar measures had been adopted in regard to other types of professional education, it would perhaps be fair to expect that a like progress might have been made." observed Dr. Mudaliar.

These are the results of the Sargeant plan. Though criticised as expensive and over-ambitious by some, and treated indifferently by some on the ground of the only objection that it was formulated by an alien Government, this comprehensive plan positively exercised a profound influence on future thinking on education. It is obvious that all the subsequent committees and commissions, appointed to suggest reforms in the structure of education gained inspiration from the concrete, objective and comprehensive recommendations of the Sargeant Plan, which the Britishers left to us along with the long-cherished independence which we won on 15th August, 1947.

Post-Independence Period

UNIVERSITY EDUCATION COMMISSION

2 UNIVERSITY EDUCATION COMMISSION :

15th August, 1947 marks the stage when the greatest and most epoch-making event of the world was ushered in, when on that eventful day, a free and independent India emerged out of centuries of thralldom. This fateful moment naturally brought a new hope, a new vision, a new opportunity for forging our own fortune.

Yet, at the very height of our joy, a tragedy too deep for words occurred which will ever be a blot on all concerned. Free India was not commensurate with Gandhi's tireless endeavours for the ideal of intact, undamaged India-Akhand Bharat. Partition of India into India and Pakistan, had irreparable adverse effect on the orderly progress of educational institutions. Consequent upon the migration of a large number of youths, the problem of education became one of complexity. The events that followed devoured considerable national funds for military purposes and started welfare activites with education as the main item among them. Besides, linguistic spfiting of the country introduced a new sort of approach to educational activities. Language problem has, since states' reorganisation, continued engaging the minds of the educationists, in controversies, which could have been fruitfully engaged in in educational reconstruction of India. As A. L. Mudaliar during his Dadabhoi Naoroji Memorial Prize Fund lectures spoke : " I am firmly convinced that narrow parochialism, whether based on provincial, communal, religious, linguistic, or any other form of limited outlook, will never lead to the blossoming of a nation where each stands for all and all stand for each, where people of all ranks, all castes, and all shades of intellectual development will feel, whatever other handicaps, they belong to one nation with a glorious heritage and with a future which they may well look forward to with pride and confidence." Communal riots and feeling of insecurity of all sorts of minorities were the consequences of the partition which cost us the precious life of Mahatma Gandhi, Father of the Nation.

However, Indian leaders, under the inspiration of Pandit Jawaharlal Nehru, resolved to make the best of the available resources and environmental forces for national reconstruction. In the field of education the nation committed itself to free, compulsory, universal education from 6 years to 14 years. The Gandhian scheme of Basic Education was accepted, in principle, as the national scheme of education. States started their endeavours to reach the target of universal education as early as possible. Education was avowed to cease as a right of the favoured few

i. e. classes and became open for masses. A number of secondary schools were opened in rural as well as in urban areas by voluntary agencies as well as by Governments. Enrolments at all stages of education started increasing at unprecedented pace, requiring more schools, more school rooms, more equipment and more teachers. A number of training schools for primary and secondary teachers were opened to fulfil the needs of the field. Governments and communities joined hands in creating school buildings and providing basic equipments. Educational development, thus caught momentum in the fifties. State Governments got the syllabii of school-stages revised in the new context. New text books were prepared and sanctioned for the schools. Union Government also created necessary national bodies to help the cause of educational development of the country.

One of the first steps taken in the consideration of the future of higher education in India after the attainment of Independence was the appointment of the University Education Commission under the Chairmanship of Dr. S. Radhakrishnan. The terms of reference of this commission were to consider and make recommendations in regard to—

- (1) the aims and research in India;
- (2) the changes considered necessary and desirable in the constitution, control, functions and jurisdiction of universities in India;
- (3) the finances of universities;
- (4) the maintenance of the highest standards of teaching and examination in the universities and colleges under their control;
- (5) the standards of admission to university courses of study;
- (6) the medium of instruction;
- (7) the qualifications, conditions of service and privileges and functions of teachers; and
- (8) the discipline and welfare of the students.

The Commission toured the country and presented a comprehensive report in August, 1949.

Spelling out the objectives of higher education, the Commission, stated, "So far as formal courses of study are concerned higher education shall have three main objectives. The first of these is general education—We think and judge and act on the basis of our information and experience. If these are very limited, then our world will be small and our Judgment faulty. It is the business of General Education to make available

to the student, and inspire him to master wisely selected information as to facts and principles so that he will have representative and useful data on which to base his thought, judgment and action, and will be aware of fields of interest and importance.

"The second objective of courses of study Liberal education is preparation of the student for independent thinking, for critical inquiry and appraisal and for creative and constructive thought and action Liberal education does not call for separate institutions nor always for separate teaching programmes The spirit of liberal education should inspire all teaching.

"The third aim of courses of study is Occupational Education, that is, preparation of the student for his life work or for other specialised interests Such courses are called vocational or technical or professional "

The commission wrote about the low academic standard of university entrants "University teachers almost unanimously complain of the low academic standard of the average university entrants and several of them have declared that a large majority of students come to university so ill prepared as to make it difficult for them to take advantage of university education and that intermediate work is really school work, which should have been completed at the high school stage "

According to the Commission, such a situation would obviously result in wastage in university education The commission commented

There is little doubt that this enormous wastage is due, firstly, to the large number of unsuitable entrants coming to intermediate classes secondly to the poor average quality of teaching provided in the intermediate classes and thirdly, to the laziness of or insufficient work put in by the students themselves Our high school and intermediate standards are undoubtedly low, and in order to improve them we should not only exact a higher standard in these examinations but also considerably improve our teaching We cannot raise examination standards unless we improve the quality of teaching first '

Speaking about the functions of a school the commission commented The function of a school is not merely to prepare students for the university but also to provide a suitable education for the large number of pupils who have no intention of proceeding to a university

It is commonly stated that the function of a school is to provide a good general education to its pupils, but it is necessary to know what

exactly are the elements of this good general education which will not only prepare a pupil for university work, but at the same time prepare him for practical work to earn his living if he does not proceed to a university."

The commission criticised the way in which Sadler Commission's concept of Intermediate college was implemented in U. P. from 1923 onwards and stated: "A real strong, well staffed 4-year (IX to XII) intermediate college, as envisaged by the Calcutta University Commission hardly exists anywhere in India, although they recommended that there should be one such institution in each district... These institutions should serve as important a function as the universities, they should have sound, well-established traditions of good all-round general education; teachers should feel that service in these institutions is as honourable as in a university; principals and teachers of intermediate colleges should be well paid. At present every high school tries to become an intermediate college whether it has the resources or not, and the obliging authorities relax the necessary conditions and recognise it as an intermediate college; the interests of the students and in fact of the whole community suffer since such a college fails to develop and train the younger generation... We have already lost 30 years by neglecting to raise the standards of our high schools and intermediate colleges as recommended by the Calcutta University Commission as it is time we realised that our secondary education remains the weakest link in our educational machinery and needs urgent reform... We think that there should be only one public examination at the end of secondary education and the beginning of university education which will extend over a period of three years for the first degree course."

The commission, thus, cast its calculated opinion in favour of the educational pattern of 12+3, with 12 years' school education and with only one public examination at the end of standard XII. In support of this view the commission advanced their argument about the standard of admission to the university courses and the age of entry to the same as under:

"Students arrive at the age of maturity for university work at about the age of eighteen years, though there are exceptional individuals who reach it earlier than 18. Before this age of maturity is reached, a boy or girl must stay under the formal discipline of a school and should be taught by the methods of the school and not by the methods of the university. That is why the British, the European and the American students are seldom admitted to a university before they

are 18 or 19 In U K and U S A and in most European countries like Germany, France and Switzerland, at least 12 years of schooling are necessary before a student enters the university We, therefore, recommend that the standard of admission to the universities should be the present intermediate examination to be taken by the student after completing full 12 years of study at a school and at an intermediate college, normally at the age of eighteen"

The commission firmly recommended In each province a large number of well-equipped and well staffed intermediate colleges (with classes IX to XII or VI to XII) be established, and that in order to divert students to different vocations after 10 to 12 years of schooling, a large number of occupational institutes be opened'

Stressing the need of technicians, the commission reported, There are several occupational institutions of different kinds and degrees of excellence in the country, but Shri Jayachamarajendra Occupational Institute at Bangalore is one of the best we have seen This institute, founded by Sir M Visvesvaraya in 1943 is now run by the Government of Mysore and offers occupational courses for technicians in 26 branches - Diploma courses in 19 branches, generally of 2 to 3 years' duration, and certificate courses in 7 branches of 1 to 2 years' duration It offers training in such branches as automobile engineering, electrical and radio technology, ceramics, glass technology, mining, printing, tailoring, bookbinding, etc with 63 instructors and 24 expert workmen on its staff There are 800 students undergoing training and 150 students well trained in their trades are sent out each year There is urgent need for such occupational institutes all over the country These institutes will train a large and growing body of ambitious youths for employment as technicians in various existing industries or for starting small industrial units of their own, they will ensure a continuous flow of skilled workers for several modern industries which are being started and will also provide further training to existing craftsmen to improve their skill and production and thereby increase their income With the growth of scientific and technical institutions and new industries in the country, we shall urgently need intelligent and skilled technicians to look after and repair scientific apparatus of all kinds, hospital appliances, glass blowing, electrical and photographic equipment etc In the U S it has been found by experience that for every highgrade engineer ten technicians are needed In our country we suffer from serious deficiency of technicians, because everyone wishes to become an engineering graduate whether he has the capacity or not We are strongly of the opinion that each province should have

a large number of occupational institutes, preferably one in each-district, giving training in as many occupations as possible".

The commission expressed their disapproval towards the ever growing rush towards university education. "A College or a University is like a living cell; once it reaches a certain size it must either divide or die. The admission of a large number of students in response to popular demand without the necessary staff, class-room and hostel accommodation and equipment has made it impossible for most colleges and universities to give full education to their inflated under-graduate population. This factor, more than any other, has undoubtedly been responsible for the lowering of our standards. To quote Abramam Flexner, 'Bigness is almost necessarily fatal to greatness.' This timely caution given by the Commission has not been properly heeded to, with the ultimate result that the aimless rush to university education has multiplied during the last twenty five years, the problems of educated unemployment and anti-social activities resulting from frustration of the educated youth have been constant headaches to universities, society and government and the universities have become venues of student unrest and turbulence.

The commission already enunciated the supplementary nature of general education and education for specialisation. According to the Commission, education should be a well-proportioned preparation for effective living in varied circumstances and relationships. The interests and opportunities and demands of life are not limited to any few subjects one may elect to study. They cover the entire range of nature and of society. That is the best liberal education which best enables one to live a full life, usually including an experience of mastery in some specialised field. The commission quoted Albert Einstein who said of specialised education "I want to oppose the idea that the school has to teach directly that special knowledge and those accomplishments which one has to use later directly in life. The demands of life are much too manifold to let such a specialised training in school appear possible. The school should always have as its aim that the young man leaves it as a harmonious personality, not as specialist. The development of general ability for independent thinking and judgment should always be placed foremost, not the acquisition of special knowledge. If a person masters the fundamentals of his subjects and has learnt to think and work independently, he will surely find his way."

The following remarks of the Commission are worth keeping in mind in the present context "From time immemorial boys and girls of fifteen years and older have craved to be at work of their lives, or

at least to be definitely preparing for it To postpone satisfaction of that craving often results in a feeling of frustration and loss of interest and very often a half conscious rebellion against an educational process which seems to them to lack vitality Vocational preparation should begin as early in life as a boy or girl craves it, and should be closely associated with general education General education and specialised or vocational education should proceed together Specialised or vocational education may well begin even below the intermediate school as soon as a boy or girl shows a live interest in some field of boys and girls who continue schooling beyond the eighth year a considerable number will continue for only a year or two For them years nine and ten should include a considerable element, at least a half of the total time given to specific vocational training and the remainder to general education For those who plan four years of secondary schools, (Std IX to Std XII) but will go no further, the element of general education might vary from over a half of the time for the first year to about a third for the fourth year the rest being given to vocational education For students planning to continue to college and university the greater part of the classroom time for the four years of secondary education may well be given to general education

The commission, thus, had two clear stages of school education (1) 8 years, elementary general education and (2) 4 years, secondary education with two streams general for preparation for university education and specialised or vocational blended with general education for preparation for entry to job and to life This formula comes to 8+4 pattern, though at one place the commission suggested an alternative pattern of 6+6

About the programme of education at the Secondary stage of 4 years (IX to XII) the commission suggested as under

General education at the Secondary stage should include an acquaintance with one's physical environment, an introduction to the basic ideas of science physical and biological, the precise and effective use of language as a means of communication an appreciation of the higher values of life as enshrined in literature, and an understanding of the processes involved in working and living together These should be presented with great simplicity in the early years and with gradually increasing range and thoroughness as the years pass We are strongly of the opinion that the content of general education as indicated above should be incorporated in the secondary school and college courses"

"The course of study in the ninth and tenth grades may include:

1. Mother tongue (correct and effective use of language, acquaintance and appreciation of select literature),
2. Federal language (Comprehension and use in simple everyday situations)

or

A Classical or Modern Indian language (for those whose mother tongue is the Federal language),

3. English (Comprehension and simple composition),
4. Elementary Mathematics,
5. General Science (Physical & Biological),
6. Social Studies (including a brief outline of world history with special emphasis on the history and geography of India),
7. Not less than two of the following subjects:
 - (a) A Classical language
 - (b) Modern language
 - (c) Additional Mathematics
 - (d) Physics
 - (e) Chemistry
 - (f) Biology
 - (g) Additional History
 - (h) Painting
 - (i) Craftwork
 - (j) Domestic Science
 - (k) Book-keeping and accounts
 - (l) Typewriting and Commercial practice
 - (m) Agricultural science
 - (n) General Engineering Science.

"The course of study in the eleventh and twelfth grades will include the following:

1. Mother tongue,
2. Federal language, or A Classical or Modern Indian Language (those whose mother tongue happens to be the federal language),
3. English,
4. General Science (Physical & Biological),

or

Social Studies (including elements of Economics and Civics),

5-7 Not less than two of the following subjects :

- (a) History (Indian, European, World)
- (b) Geography (and Geology)
- (c) Economics
- (d) Civics
- (e) A classical language (Sanskrit, Persian, Arabic, Latin, Greek),
- (f) A Modern Indian Language (Hindi, Urdu, Bengali, Marathi, Gujarati, Tamil, Telugu, etc)
- (g) A Modern European Language (English, French, German, etc)
- (h) Logic
- (i) Psychology
- (j) Music
- (k) Drawing
- (l) Home Science
- (m) Physiology and Hygiene
- (n) Mathematics
- (o) Physics
- (p) Chemistry
- (q) Biology
- (r) Elements of Accountancy and Book-keeping
- (s) Elements of Banking
- (t) Business Methods
- (u) Economic History and Economic Geography
- (v) Steno-typing
- (w) Industrial organisation
- (x) Commercial Arithmetic
- (y) Elements of Soil Science.

As stated by the Commission, the most common education pattern in vogue in U. S. is called *8+4+4 plan*. The student has to do eight years of schooling in the elementary schools and four years in the secondary schools before admission to the undergraduate course in the colleges and to the Bachelor's degree to universities. Generally, the course here extends over four years, so that the student takes sixteen years of education to reach the first degree. Entrance to professional courses commonly requires two to four years of college work, that is, the completion of fourteen to sixteen years of education. Professional degrees require three to five years after entrance, or seventeen to twenty years of total schooling, depending on the profession and the standards of the university.

This example of a sound educational pattern deserves our careful consideration, if India is to produce fully prepared, self-reliant, thoroughly informed and skilled high level manpower for her reconstruction programmes. Only such educated persons, mature in knowledge, understanding and skill, are capable of delivering goods to the country.

On fundamentals of professional education, the commission reported... 'The foundation of professional education should be not only technical skill but also a sense of social responsibility, an appreciation of social and human values and relationship, and disciplined power to see realities without prejudice or blind commitment. While professional men largely set the pattern of national life, that pattern is much influenced by their earlier intellectual and moral experiences, especially their professional training. The standards and motives of professional practice in the coming years are largely being made in the professional schools of to-day."

The commission laid a great stress on agricultural education and recommended

1. that agricultural education be recognised as a major national issue;
2. that, since in a democratic country sound agricultural policy must rest on the understanding and participation of those engaged in agriculture, the study of agriculture in primary, secondary and higher education be given high priority in national economic planning;
3. that, so far as is feasible, agricultural education be given a rural setting, so that it shall induce direct participation in and experience with agricultural life and practice.

The greatest contribution by his Commission relates to rural uplift by sound education suited to rural environment. The Commission observed : "So long as a nation's rural life is vigorous, it possesses reserves of life and power. When for a long time cities draw the cream of life and culture from the villages returning almost nothing, as has been the case in India during the last two centuries, (this tendency has received terrific momentum during the fifties and sixties and continues unchecked during seventies) the current village resources of culture and energy become depleted, and the strength of the nation is reduced."

Recommending definite governmental and educational policy and a change of public attitude towards the village, the Commission stated:

"The village life should be economically prosperous. It must not be wasted in primitive habits of production. Full advantage should be taken of modern technical developments. Small scale farming by efficient methods will require only a small part of the human labour needed at present, and production may be greatly increased. Much of the village population will be available for work other than agriculture. Each village and especially each group of villages will have a wide range of economic activity. A large part of industry of the country should be located in villages and small towns. Every village should have a good year round transportation and should be supplied with electric power. Each one should have a piped water supply under pressure, a sewage system and a telephone system." According to the Commission education should have this ultimate goal of rural modernisation which would be the very backbone of the programme of national reconstruction. The Commission advocated the use of modern technical developments for rural uplift. It is here that the Commission stated "With some details of Gandhiji's programme of basic education, we may not agree" yet stressed 'inherently the concept is one of the world's great contributions to education'.

The commission recommended 'People's College' and 'Rural universities' with a view to achieving this objective. As regards 'People's College', the commission wrote 'For helpful guidance in this matter, we may turn to the programme of the people's colleges of the Scandinavian countries, especially to those of Denmark. Sir Richard Livingstone, England's foremost figure in adult education, called the Scandinavian peoples college the only great experiment in educating the masses of a nation. The part which the people's colleges have played in this transition is suggested by the fact a third of the rural people attend them while another third come under their direct influence. More than thirty percent of the members of the national legislature, and eighty percent of the co-operative leaders in the country where co-operatives play a dominant economic role were educated at the people's colleges. The principal writers of modern Sweden also were educated at people's colleges rather than at the universities.'

The commission's concept of secondary school village is akin to the post basic school pattern on Gandhian line of thinking. The commission said, 'The secondary school village would serve a group of villagers and should be conveniently located with reference to them. Small units of 150 to 200 students will be far better than mass schools of many hundreds. A school for 150 pupils should have probably 30

to 60 acres of land depending on circumstances. Perhaps 10 to 15 acres of this should be for school house, hostels, homes for teachers, play-ground, workshop and industrial sites. The rest should be for agriculture, forest and pasture. In so far as possible, the school village should be built by the pupils and their teachers working together, with the help of persons in village and school planning and nearly all the work of maintaining and cleaning buildings and grounds, preparing food and doing other necessary work, could be done by students as part of their practical education. The life of the school should follow the course of life of a good village, except that about half the working time should be given to study and about half to practical work. Some work such as cleaning the school-village probably should be done by everyone, teachers and pupils working together. The school should raise most of its food and, should teach boys and girls how to make the land yield as much as possible. The practical work should include farming, building, carpentry and cabinet making, house keeping, weaving, street cleaning, and other useful village-work. It should also include one or more modern industries, manufacturing goods for sale. So far as training in a modern industry is concerned a two to four year period of work in a secondary school industry under skilful teaching, along with related study, should produce highly skilled workers, ready to perform many of the more exacting processes in new industries in new secondary school villages. In their study periods the pupils should be getting an all round, well-proportioned education. Where feasible the subjects of study should be related to or grow out of the practical work and life of the pupil. In its industrial work, the rural secondary school should aim at creating a new industrial tradition."

The commission further stated, "Basic Secondary education can develop a large element of self-support and can be better education than that which is wholly supported by taxation. No specific amount of self support should be made imperative. The educational development of boys and girls should be the first consideration, but experience in complete and responsible production will be found to contribute greatly to such development. Generally, the land, building and equipment should be supplied from public funds. Self support must come partly by restricting wants to very simple living, and partly by increasing income. Probably some labour should be shared by all, such as half an hour for general clean up in the morning. Most work should be divided, with each student having his or her definite duties. The duties of a student may be changed from time to time so that he or she can become acquainted with many kinds of work. Every boy or girl in basic and post-basic

education should be able to perform almost any common, necessary duty In line with the spirit of the new Indian constitution every boy and girl in basic and post basic education school should make the resolve "I shall never ask nor accept from my person any mental service that I would not gladly do for him or her or for others"

Such a grand tribute was paid by the Commission to Gandhi's educational philosophy Had Gandhi been alive to read the Report of the Commission, headed by the renowned philosopher, he would have definitely hailed the recommendations of the Commission, which further firmly stated 'The energy and devotion needed to guide industrial development in India so that it shall serve wide spread decentralisation on a high economic, social and spiritual level, should not be dissipated in trying to prevent it Not the greatest degree but the best degree of local self sufficiency should be the aim If the village does not industrialise the actual result will be that urban industry will take over all those processes that are most profitable, leaving to the village the unprofitable operations"

Giving the example of other countries the Commission observed Over half the business of America is done by small and medium sized firms These are on the whole more profitable than the great industries as is disclosed by several public and private studies The efficiency of American manufacturing rests largely on the use of machine tools in place of manual skill of craftsmen The machine tool factory is greatly decentralised While there are perhaps half a dozen large firms, all together they employ probably less than a fifth of those scattered over many parts of America Many parts of the textile industry are also highly decentralised This is true of factories making carpets, rayon, men's shirts, women's dresses underwear, and hosiery Many of these factories are in villages or small towns in various parts of America It is interesting that the foreign goods which have been best able to invade American markets during recent decades were not made in the great industrial plants of England or pre-war Germany, but was products of small scale industries of Switzerland and Japan"

The Commission therefore, recommended 'The development of secondary rural education should presume decentralised, well balanced, progressive industrialisation In fact a considerable part of the vocational training of post basic schools should be to prepare boys and girls no longer needed in agriculture for other callings The industrial development of India is being handicapped by the lack of workers who are skilled in hand and eye to fill position not requiring full professional training As rural industries develop, secondary schools should go

far to meet that need. The destiny of India depends on the vigour of the health, the culture, and the intelligence of the villagers, which in most cases, require complete relocation and reconstruction."

Stating that the situation of the village is not hopeless, the Commission further reported, "We are constantly impressed by the vast potential human resources ready to become alive and to spring into action, if they are but freed and encouraged by public policy and by private example. So far as material resources and human energies are concerned, the wholesale relocation and reconstruction of our villages is entirely feasible .. The great material wealth of mankind is not its stored wealth, its hoarded gold, its cities, its railroads, ships and factories, but the current, year by year production of wealth by the people. The potential wealth producing capacity of men is almost incredibly great. What we are lacking are not natural resources or human energy, but a mental picture of what is desirable and possible, and the character, skill, experience and culture necessary to realise such possibilities. These qualities it is the main business of rural education to provide. India has such vast natural and human resources that, given these qualities, the average Indian might have many times as much wealth at his disposal as he now possesses. If even ten percent of our potential resources should be realised, India and all her people would be rich."

With these prophetic remarks, which, we must admit, was not given due attention to in the ambitious leap of Indian leaders towards heavy industrialisation on a large scale, the commission recommended the following pattern of rural education.

8 years of basic education

3 or 4 years for post-basic or secondary education

3 years for college (first degree)

2 years' post graduate university work for the master's degree.

Though 3 or 4 years of post-basic or secondary education has been suggested there, the commission seems to be in favour of 4 years secondary education (IX to XII), if the whole report is kept in our view.

Regarding the over-crowded situation in universities (the situation has crossed all limits by now), the commission commented "The crowding together of thousands of under graduates is highly undesirable. A way should be found to combine the advantages of small resident undergraduate colleges where there are close relations between teachers and students, with the advantages of developed universities which offer a wide range of specialized and advanced educational

opportunity to advanced students, on to the other students with specialized interests."

The commission strongly advanced a plea for rural university and suggested that a rural university should include a ring of small resident, undergraduate colleges, with specialized university facilities in the centre. The suggested number of students for each of the undergraduate, resident colleges was about three hundred, and that of the maximum overall enrolment for colleges and university combined, about twenty five hundred. The commission suggested, Each college of about three hundred students would have separate teaching staff and facilities so far as its basic courses are concerned except that undergraduate libraries, laboratories, gymnasiums and hospital facilities might be shared by as many colleges as should prove desirable. The aim of each college would be to equip its students with a general educational foundation and to encourage the development of individual aptitudes and interests as they appear."

In some cases, undergraduate students would be well qualified to undertake professional or other specialized studies in some particular fields. It should be possible, in such cases, for them, while still undergraduates, to take single course in university or professional school. Each student should have opportunity, without sacrificing the core of general education to begin specialization at whatever time he is ready for it, even at the risk that he might later change his field of occupational interest.

In rural colleges, as in rural secondary schools, general studies should be united with practical courses, so that those who attend college shall become cultured, educated men and women and also persons trained and skilled in some field or prepared for further advanced training. Probably the greater part of rural college students will not have further schooling, except for 'refresher courses', and so their college years should include occupational preparation. Also, as with rural secondary students, rural college students may spend about half their time at studies and half at practical work. There is a tendency at university circles to look upon alternating work and study, and also upon practical courses especially those calling for manual craftsmanship as suited to inferior minds while professional courses are for intellectuals. This separation of skill of hand from skill of mind has greatly retarded the mastery of the physical world and has been a major cause of poverty especially in India. The common core would include substantial introduction to the fields of mathematics chemistry physics geology biology

logy, physical education, psychology, the social sciences, philosophy and language and literature. While there should be many common elements for all students, the curriculum should be made to fit the needs of individuals and not the students made to conform to an arbitrary curriculum. By the time students reach college, if they have been well advised and have had practical work experience, many of them will have definite ideas of the work they want to do... For instance, a man planning to direct public water control projects may combine engineering, law, business and public administration. Lawyers as a rule are quite unable to understand technical engineering matters while engineers are ignorant of law. Both are frequently unacquainted with business methods. Yet all these elements are needed for effective management of such projects...None of these courses would be standard and conventional but those elements in each field would be included which taken together would make well-proportioned preparation for the persons concerned. A large number of such possible combinations might be cited. Many students without definite aims would follow more general programmes. However, to become competent in all the chief activities associated with some field is a great help to personal success and to social usefulness. The flexibility and adaptability of the programme require freedom for creative education. That freedom would be destroyed by any system of uniform examinations."

The Commission's advocacy about rural university is also based on the fundamental principles of basic education. "Our education must find its guiding principle in the aims of the social order for which it prepares, in the nature of the civilization it hopes to build. Education is the great instrument of social emancipation by which a democracy establishes, maintains and protects the spirit of equality among its members... Just as the despised calling of a scavenger has emerged as the honoured profession of sanitary engineer, so can every necessary human work become in truth a profession... In rural India in process of active development, some new or relatively new professions will be useful. Some of these may be peculiarly rural and others common to both urban and rural life. Among professions or branches of professions in the development of which rural universities may well participate are various phases of water control engineering, soil improvement engineering, temperature control engineering, food processing technology, "Chemurgic engineering", ocean products technology, mineral processing, rural industrial counselling, rural public administration, rural social welfare, rural land and village planning, social engineering, rural sociology and anthropology, rural arts and rural medical service."

"The method of basic education, from elementary school through the university on the part of the student calls for intimate participation in the life through which these great traditions are expressed and perpetuated. By such participation as well as by formal learning, he comes to inherit fully those traditions. It is the part of teaching and leadership to share with the students in this participation, and to so guide and inform it that the great traditions in the process of being inherited, shall be purified, enlightened, enlarged and made to express the basic aspirations of men for understanding, for justice, liberty, equality and fraternity, and for effective mastery of their environment."

'Just as democracy cannot be maintained by a small educated class, but must be based on the education of the whole nation so the full advantage of modern science cannot be secured by a few able scientists working in a few well equipped laboratories but requires also that a spirit of open minded, critical inquiry shall pervade the whole nation. The poverty of India is largely due to the general absence of this spirit. Such work is performed in the same way generation after generation though the methods might be greatly improved. This is due not to inborn limitation, but to longstanding traditions of conformity. Our children have curiosity and active interest. Our scientists have proved their ability. If the spirit of free critical objective inquiry becomes general, not only will everyday working methods improve but from the many boys and girls with open inquiring minds great scientists in many fields will emerge. Development of the spirit of free inquiry should be a chief aim of basic education and of the secondary and higher education which grow out of it. More important than the teaching of any particular subject is the encouragement of the spirit of free inquiry in every field.'

The commission recommended a rural education council in each province or in a group of small provinces and also an All India Rural Education council. The Commission advised The Hindustani Tahmi Singh now serves that purpose and could be enlarged. This in time would have sections concerned with the different levels of education and doubtless would develop other special sections such as on general education, on vocational and professional education, on workshops in education and on student counselling. Quite probably basic education would be chiefly guided by provincial council and post basic (Secondary) education by both.'

Regarding the implementation of the rural education programme the commission made very valuable recommendations. Under the pro-

gramme of free India, University facilities must be increased. The only question is where and how. Similarly facilities for secondary schooling must be very greatly enlarged and expanded with vastly increased opportunity for vocational education. The suggested programme for secondary schools will be an economical and effective means to an end ..Most provinces are already committed to the principles of basic education. Each of them might well establish a number of resident secondary school villages, and they might co-operate in establishing one or more rural universities. Similarly the Central Government might well establish several resident secondary school villages and a rural university. The growth of the new system will depend largely on the supply of suitable teachers. The Central Government or the provinces might establish one or more training school for teachers for this programme."

"The Government of free India and of the various states and provinces are considering many plans for improving rural life. These plans include rural health service, agricultural extension work, boys' and girl's agricultural clubwork, rural library service, and the promotion of rural industries. If each of these develops independently of the other there will be much duplication of expense, a tendency to conflict and jealousy and much loss of value. There would be very great gain if all these agencies should work through the rural educational institutions. The Secondary school village might well be the local Centre for all these services. In that way suitable housing and living conditions would be provided, secretarial help, transportation etc. could be pooled, and local officials having business with some of the agencies would find them all at one place. Thus the resident secondary school village would be the educational and cultural centre of a group of villages."

national and social the acquisition of economic independence the increase of general prosperity, the attainment of an effective democracy over riding the distinctions of caste and creed, rich and poor and a rise in the level of culture For the quick effective realisation of these aims education is a powerful weapon if it is organised efficiently and in the public interest '

The Commission recommended that a University Grants Commission should be constituted by the Central Government which would be responsible to ascertain and meet the needs of the universities The Government of India constituted the University Grants Commission which was formally inaugurated at New Delhi on the 28th December 1958 by Maulana Abul Kalam Azad the then Minister of Education The functions of the Commission were stated to be

- (1) To advise Government on the allocation of grant in aid from public funds to Central universities
- (2) To advise Government on the allocation of grants in aid to other universities and institutions of higher learning whose case for such grant may be referred to the commission by the Government and
- (3) To advise the universities and other institutions of higher learning in respect of any questions referred by the Government to the Commission

After nearly three years the University grants Commission Act was passed by the Parliament in November 1956 and the U G C became a statutory body from that time

The University Education Commission which was the first national Education Commission appointed by the Government of Free India thus made very important recommendations for all levels of education keeping in mind the foremost functional role to be played by education for national reconstruction The advocacy of the Commission for rural schools and universities based on their interpretation of Gandhian philosophy of education was the right suggestion at the right time when India was on the threshold of reconstruction These suggestions if they were implemented in the right spirit from that time onwards could have given a new better fuller and richer shape to India during the last twenty seven years But it was our misfortune that we could not purge ourselves of the traditional, more than a century old glamour for elitist education which is responsible for most of national deficiencies from

which we are suffering to-day. The commission had in view the ideal of economic independence, through right kind of education based on a balanced compromise of national economic pattern preached by Gandhi and Nehru's economic policy of heavy industrialisation which the country witnessed in the post-independence period.

II SECONDARY EDUCATION COMMISSION 1953

The University Education Commission, 1948 remarked : "Our Secondary Education remains the weakest link in our educational machinery and needs urgent reforms." They also offered their ideas about the pattern of secondary education related to life.

The demand for a programme of Secondary education suited to the national needs and the comprehensive programme of national reconstruction rose from all parts of the country. The Ministry of Education responded to this demand and on the recommendation of the Central Advisory Board of Education, appointed the Secondary Education Commission in September, 1952 under the Chairmanship of India's distinguished educationalist Sir A. Laxmanswami Mudaliar. The members of the Commission were eminent educationists from India and also from United Kingdom and America. The terms of reference for the Commission were as under :

- (a) To enquire into and report on the present position of Secondary Education in India in all its aspects and
- (b) To suggest measures for its organisation and improvement with particular reference to -
 - (i) the aims, organisation and content of secondary Education;
 - (ii) its relationship to primary, basic and higher education;
 - (iii) the interrelationship of secondary schools of different types; and
 - (iv) other allied programmes;

so that a sound, reasonably uniform system of Secondary education suited to our needs and resources may be provided for the whole country. The Commission toured extensively in the country to apprise itself with the patterns of secondary education obtaining in various parts of the country.

Taking note of the time-table, unsuitable text books of poor quality, unduly detailed syllabus, insufficiency of suitable and right type of teachers, overcrowded classes and inadequate facilities for those co curricular activities which provide an excellent medium for training the mind and emotions as well as the practical aptitudes of students, the Commission commented "The education given in our schools is isolated from life, the curriculum as formulated and as presented through the traditional methods of teaching does not give the students insight into the everyday world in which they are living. When they pass out of school, they feel ill adjusted and cannot take their place confidently in the community. Unless the school is itself organised as a community and is in vital rapport with outside community life, this situation cannot be remedied." The Commission described secondary school programme as narrow and one sided, failing to train the whole personality of the student. They also criticised the prevalent teaching methods which 'failed to develop in the students either independence of thought or initiative of action' and the dead weight of the examination which 'tended to curb the teachers' initiative, to stereotype the curriculum, to promote mechanical and lifeless methods of teaching, to discourage all spirit of examination and to place the stress on wrong or unimportant things in education."

Daunting right type of education, the commission said, "The educational system must make its contribution to the development of habits, attitudes, and qualities of character, which will enable its citizens to bear worthily the responsibilities of democratic citizenship and to counteract all those fissiparous tendencies which hinder the emergence of a broad, national and secular outlook. Secondly though rich in potential resources, India is actually a poor country at present, a large majority of its people have to live at an economically sub-human level. One of its most urgent problems if not the most urgent problem-is to improve productive efficiency, to increase the national wealth and thereby to raise appreciably the standard of living of the people. Thirdly, partly as a result of this oppressive and wide spread poverty there is a serious lack of educational facilities and the bulk of the people are so obsessed with the problem of making some sort of a living that they have not been able to give sufficient attention to cultural pursuits and activities. Hence, there is need for reorienting the educational system in such a way that it will stimulate a cultural renaissance."

"From this necessarily sketchy analysis of the dominant needs of the present situation, it is clear that we shall have to formulate our aims with reference to these broad categories—the training of character

to fit the students to participate creatively as citizens in the emerging democratic social order, the improvement of their practical and vocational efficiency so that they may play their part in building up the economic prosperity of their country, and the development of their literary, artistic and cultural interests which are necessary for self-expression and for the full development of the human personality, without which a living national culture cannot come into being."

The commission elaborated this role and objectives of education as under

"(i) In a democracy if it is anything more than the thoughtless exercise of the vote an individual must form his own independent judgment of all kinds of complicated social economic and political issues and to a large extent decide his own course of action. The Secondary Education which would be the end of all formal education for the majority of the citizens, must assume the responsibility of providing the necessary training for this purpose. The first requisite in this connection is to develop the capacity for clear thinking and a receptivity to new ideas.

(ii) He must develop a scientific attitude of mind to think objectively and base his conclusions on tested data. He should also have an open mind receptive to new ideas and not confined within the prison walls of outmoded customs, traditions and beliefs. He should dispassionately examine both the old and the new and courageously reject whatever arrests the force of justice and progress.

(iii) Clearness in speech and in writing is an important social asset. It is also an essential prerequisite for successful living in a democracy which is based not on force but on free discussion, persuasion and peaceful exchange of ideas.

(iv) Education should take into account all his needs psychological, social emotional and practical and cater to all of them. The view of education that emerges from this basic concept transcends the narrow academic approach and broadens out into an education for living i.e. an education to initiate the students into the many-sided art of living in a community.

(v) No education is worth the name which does not inculcate the qualities necessary for living graciously, harmoniously and efficiently with one's fellowmen. Amongst the qualities which should be cultivated for this purpose are discipline to operation, social sensitiveness and tolerance. Each one of them has its own special part to play in humanising and socialising of the personality."

(vi) "If a democracy like ours is to survive—a democracy which harbours so many faiths, races and communities education must cultivate in our youth an openness of mind and largeness of heart which would make them capable of entertaining and of blending into a harmonious pattern differences in ideas and behaviour

(vii) "Another important aim which the secondary school must foster is the development of a sense of true patriotism which involves three things a sincere appreciation of the social and cultural achievements of one's country, a readiness to recognize its weaknesses frankly and to work for their eradication and an earnest resolve to serve it to the best of one's ability, harmonizing and subordinating individual interests to broader national interests

(viii) "The whole world is so intimately interconnected that no nation can or dare live alone and the development of a sense of world citizenship has become just as important as that of national citizenship

(ix) We must concentrate on increasing the productive or technical and vocational efficiency of our students. There should be much greater emphasis on crafts and productive work in all schools, and in addition diversification of courses should be introduced at the secondary stage so that a large number of students may take up agricultural, technical or other practical courses which will train their varied aptitudes and enable them either to take up vocational pursuits at the end of the secondary course or to join technical institutions for further training. These measures will, we hope, result in equipping educated young men—psychologically and practically—to undertake technical lines and to raise general standard of efficiency, thereby helping to increase national wealth and ultimately to improve the standard of living

(x) "Secondary Education should release the sources of creative energy in the students so that they may be able to appreciate their cultural heritage and to contribute to the development of this heritage

The Commission advocated linkage between the secondary education and elementary basic education which had been accepted as the national system of education by the Government and stated "Secondary Education, in its ideology and approach should grow from the education that is being given at the mass level and should consequently be closely integrated with Basic Education or activity motivated primary school. The ideas of productive work of the vital relationship of the curriculum of life, of community living and community service must all find a place in it, with such modifications as the psychology of adolescence may render necessary. Secondly, as a stage

leading to higher Education, it may also be reasonably expected to develop the knowledge and skill and the mental habits required for independent work at the university level But the integral unity of secondary education as well as the entire outlook of teachers and parents towards it has been seriously vitiated by the fact that they have been apt to regard it as a stepping stone to the University"

Regarding the duration of secondary education, the commission observed

"It is now generally recognised that the period of Secondary Education covers the age group of about 11 to 17 years Properly planned education, covering about 7 years should enable the school to give a thorough training in the courses of study taken up by the student and also help him to attain a reasonable degree of maturity in knowledge, understanding and judgment which would stand him in good stead in later life It has been repeatedly pointed out by all concerned with education that at present the standard attained by students who seek admission to the university and to the other higher courses is low and that the average age of entrance is also low A somewhat longer period of training before entrance to university, is likely to be useful both for those who want to finish their education at this stage and for those who want to pursue higher education Judging by the requirements of the several of the diversified courses that we have in view we feel that a somewhat longer period of training will be necessary if they have to be taught with thoroughness and efficiency The various arguments that have been adduced in favour of this view have led us to the conclusion that it would be best to increase the secondary stage of education by one year and to plan the courses for a period of four years, after the middle or Senior Basic stage We have, therefore, come to the conclusion which also tallies with the view of the University Education Commission in this connection that it is desirable to abolish the present intermediate stage, to increase the period of secondary education by one year and to plan a three year degree course at the university stage"

The Commission thus categorically recommended abolition of intermediate stage by taking out its first year to be added to the High school stage and the second year to be the first year of the University degree course which would be of three years' duration instead of two years In the erstwhile Bombay state of which the present Gujarat state was a part, secondary education was ended after the eleventh year of schooling at the end of which the pupil was qualified to appear at the Secondary School Certificate Examination of

the Statutory Board of the State. Thus according to the recommendation of the Commission, 23 years ago school stage duration was to be extended from 11 years to 12 years and the first degree stage of the university (in Arts, Science and Commerce) was to be of the duration of three years instead of two years. Junior year and Senior year. The Commission endorsed the recommendation of the University Education Commission that a longer period of training before the entrance to university is necessary with a view to ensuring maturer university education receivers.

Keeping this fundamental point in view, the commission recommended the following new organisational structure for secondary education after 4 or 5 years of primary or Junior Basic education:

- (1) A middle or Junior secondary or senior Basic stage which should cover a period of three years,
- (2) A Higher Secondary stage which should cover a period of four years

This general structure based on 4 or 5 years of primary or Junior Basic duration had been suggested by the commission as an All India pattern. Education is a state subject and different states have different structures mainly having two groups (1) those having 10 years of schooling leading to secondary school public examinations and (2) those having 11 years of schooling leading to secondary school public examination. The equivalence of certificates also has not been decided on this pattern, for example standard tenth of Uttar Pradesh was considered equivalent to Standard XI in Gujarat and Maharashtra. This equivalence is based on the last class of secondary school which would qualify the students for the public examination at the end of secondary education. The structure recommended by the Commission should be interpreted in this light. The recommendations of the commission regarding higher stage of the duration of four years and regarding diversification of courses into various streams so as to give a terminal nature to this stage for those who would wish to enter the world of work as the earning member of the family and the society are based on this understanding.

Regarding the switch-over to this reconstructed pattern, the Commission observed 'The large majority of the existing High Schools are unable at present to undertake the responsibility of offering an additional year's education to their pupils. In fact, in view of the over crowding of the classes, the large number of sections allowed in each form and the lack of trained teachers we realise that it would be unsound

to expect many High schools to take on the additional year and convert themselves into the contemplated Higher Secondary schools. For some time, therefore, we have necessarily to envisage the likelihood of two types of schools the existing High schools of the present kind and the Higher Secondary Schools, which will provide an additional year's training and prepare the students for the Higher Secondary stage. Thus, it is obvious that, for several years to come, there will be simultaneously High schools from which students will take the secondary school leaving certificate and the Higher secondary schools where they will take the higher secondary school leaving certificate. Should any of the pupils who pass the SSLC (SSC) wish to follow the university course, he will have to spend one year in the pre-university course of study and thus qualify himself for entrance to the university. The object of this pre-university year is to prepare the student for the three year degree course or for a professional course. We were told that in some states where the Higher Secondary School Leaving Certificate Examination has been instituted, students who have gone to the university have proved themselves distinctly superior to those who come from the high schools. It is not merely the additional year's training that is in their favour but the greater degree of intellectual maturity that they acquire during these years' compact secondary education."

"These improvements (switch over to Higher secondary school) should include the provisions of better qualified and more carefully selected personnel, better equipment, better laboratory and library facilities and better organisation of co curricular activities. In addition, the scheme of diversified courses of study should also be introduced as far as possible. In case of those candidates who have taken diversified courses in higher secondary schools, the question of the possibility of exempting them from some portion of their studies in the respective professional colleges in the light of their achievements in the schools may be considered by the authorities concerned. We would prefer that pre professional courses should be offered in the professional colleges concerned, they may, during the transitional stage, be given in some of the degree colleges where the necessary facilities are available."

Expecting that at successful conclusion of the Secondary course, a majority of students will take up some suitable vocational pursuit and in due course achieve a reasonable degree of competence in it either through practice and experience or through apprenticeship training, the Commission recommended for those who would like to pursue higher studies that polytechnics or Technological institutions should be available where technical courses covering two or more years would be provided.

and that they should be eligible to take the certificate on Diplomas awarded by the State or by the All India Council for Technical Education. Those who take the Higher Secondary Certificate with vocational subjects were recommended by the Commission for exemption from the first year of the course.

The commission advanced their plea for diversification of courses at the secondary school stage as under:

"In view of the fact that education upto the age of 14 has been made free and compulsory under the constitution, students with a very wide variety of talents will be seeking admission in future. This postulates that our secondary schools should no longer be 'single-track' institutions but should offer a diversity of educational programmes calculated to meet varying aptitudes, interests, and talents which come into prominence towards the end of the period of compulsory education. They should provide more 'comprehensive courses which will include both general and vocational subjects and pupils should have an opportunity to choose from them according to their needs. It is necessary to point out clearly that this diversification of courses and the introduction of many practical subjects at the secondary stage does not mean that something called 'general' or 'cultural' education is to be provided for one group of students, while others are to be given a narrow 'practical' or 'vocational' or 'technical' education. The whole modern approach to this question is based on the insight that the intellectual and cultural developments of different individuals take place best through a variety of media, that the books or the study of traditional academic subjects is not the only door to the education of the personality and that in the case of many-perhaps a majority of the children, practical work intelligently organised can unlock their latent energies much more successfully than the traditional subjects which address themselves only to the mind or, worse still, the memory. If this principle is clearly understood by educationists, they will see to it that these various courses are accorded priority of esteem and students are helped to select them with due regard to their natural interests and talents. In view of the fact that they have all to be trained in certain basic ideas, attitudes and appreciations, which are essential for playing the role of intelligent citizens in a democracy, there should be a certain common core of subjects of general value and utility which all students may study. But the wise teachers should realize that the other special practical subjects can also contribute, provided they are rightly taught, to the all round education of the students making them productive, cooperative, well-balanced and useful members of society."

The concept of multilateral or multipurpose schools, which is considered to be a present made by the Commission to the country, emerges from this plea for diversification of courses. As defined by the Commission, a multipurpose school seeks to provide varied types of courses for students with diverse aims, interests, and abilities. It endeavours to provide for each individual pupil suitable opportunity to use and develop his natural aptitudes and inclinations in the special course of studies chosen by him.

While recommending multipurpose secondary school pattern, the Commission admitted room for unilateral schools also where intensive training would be provided in particular type of vocational courses according to the occupational needs of the community and the locality. The Commission laid great stress on agricultural education in schools. They said, "The need to educate the youth of the country to a proper appreciation of the role that agriculture plays in the national economy must be stressed in all schools. In view of its basic importance, we recommend that all states should provide much greater opportunities for Agricultural education in rural schools, so that more students may take to it and adopt it as a vocation. With Agriculture two other allied subjects should be closely integrated: Horticulture and Animal Husbandry, if the study of agriculture is to lead to any positive results. In all schools offering agriculture as a special subject, adequate plots of land should be available for cultivation and students should be trained to carry out all the operations necessary for the purpose. Moreover, the teaching should be so planned as to bring out its scientific aspect properly so that pupils may gain adequate knowledge of the allied sciences of Botany, climatology, the nature of the soil and seed, and in different pests that affect agricultural plants. Animal Husbandry is one of the important vocations. This includes sheep-farming, poultry farming, maintenance of cows and bulls, and dairying, etc ..It is also necessary that suitable types of cottage industries be taught in agricultural schools. It may be spinning and weaving, or leather work or pottery or basketry or carpentry or some other artistic or useful craft. It may be some other small cottage industries like those carried on in Japan, which can be introduced with the help of electricity. Some students may also profitably study the methods adopted by cooperative societies for the collection and sale of products of agriculture and animal husbandry and of cottage industries."

Stating that one of the chief objectives of education is to make the individual conscious of his intellectual powers, and manual skill which he may use for the good of his community, the Commission affirmed, "It is in doing' that ingenuity develops. Herein lies the

importance of technical education in so far as it is a method of education which will conduce to an all-round development of head and hand and will ultimately give young pupils the joy of having achieved something by their own initiative and labour... The greater wealth of a country is not to be found in the bowels of the earth but in the ingenuity and skill of the people. The United States of America is noted for being the richest country in the world to-day, but her present position is not solely due to her national resources but to the techniques that have been evolved and the 'Know-how' methods that have been adopted through the education imparted to the citizens. The thousands of patents that are registered there every year as against a few hundreds in our own country, bring home to us the necessity for developing Technical Education in all grades."

The Commission forecast that with the growing development of industry and its expansion and the keen desire of the public to utilise the natural resources of the country to the best advantage, the demand for welltrained technical personnel will increase rapidly and continuously for years to come.

The Commission recommended four types of technical education to cater for four distinct types of students:

- (1) The students of Higher Secondary schools in the four upper classes;
- (2) Students who are unfit to pursue the full course of secondary education or who leave school for economic reasons and find it necessary to earn a living as early as possible;
- (3) Those who pass the Secondary schools course and who desire to pursue technical education in polytechnics or occupational institutes without going to a university.
- (4) Those belonging to any of the above categories who after completion of their course are gainfully employed and who wish to improve their prospects by partime evening classes in subjects of their choice.

The Commission stated: "The first category of students can be provided for in a Technical High school or multipurpose school, which is not different from the ordinary secondary school except that besides giving training in core subjects like languages, science, mathematics and some degree of social studies it will provide for (1) Applied Mathematics and Geometrical Drawing (2) Elements of Workshop Technology, and (3) Elements of Mechanical and Electrical Engineering.

The objective of the school is to give an all round training in the use of tools, materials and processes which are mainly responsible for turning the wheels of civilization. The school is not intended to produce artisans. The second category of students is provided for in school of Industry or a Trade school teaching a number of trade courses in mechanical Engineering, Electrical Engineering and other subjects. The third category of students is provided for in technical institutes and sometimes in Engineering colleges. The courses are usually for three years and lead to Diploma. The fourth category of students which is numerically the biggest is at present almost wholly uncatered for."

In view of the paucity of fully trained technical personnel, the commission recommended utilisation of large central institutes in some of the bigger cities for multiplicity of purposes and further recommended "As Multipurpose schools develop and better facilities become available, it should be the endeavour of the managements concerned to see that the schools are fully equipped to meet the needs of all diversified courses so that these students may have more time to equip themselves thoroughly in the practical aspects of Technical Education. Such a Central Institute, provided it has the necessary facilities, may be utilised for part-time training in industrial courses, and for further training of those who have already had some training."

The Commission stressed the integration of apprenticeship training in a factory and general and technical education in a school as a very essential structure of vocational and occupational training and suggested as under

1 "A well-conceived and well-organised system of apprenticeship training in various trades for the age group above 14 should be the normal feature of all industrial concerns,

2 Technical schools functioning at the same level as the normal secondary schools should be established for the benefit of the boy apprentices. Such schools should provide the apprentice with the required amount of technical education in the special trades as well as general education on a part-time basis. For this purpose, the schools should be located in close proximity to industries and should function in close cooperation with the industry concerned. The entire period of apprenticeship-cum-technical school education may range from 4 to 5 years, depending upon the period of apprenticeship training required in a particular craft or trade. A boy at the age of 18 or 19 would thus have received both a general education and a technical education which would fit him for some gainful employment. This type of school is different from the

trade school and the Higher Secondary school that has been envisaged, in that the whole purpose of the school is to enable the boy to carry on his apprenticeship training within industry and supplement it by the training given in the school "

The commission claimed that if all the measures suggested above are implemented in course of time there will be no occasion for the students to rush to the type of education provided in the universities and stated, "The whole task of occupational training would be greatly facilitated if a certain number of secondary school pupils, particularly from Technical High Schools, were taken directly as apprentices into industry. It would enable the student to utilise his technical workshop knowledge and to develop his abilities at a time when his flexibility and capacity for learning are at their highest "

' In many countries, apprenticeship training is by legislation made obligatory in all industrial concerns both for employers and employees. In some countries legislation directs employers to release apprentices for a full day in a week or two half days in a week for theoretical instruction in a technical institute. In other countries the trainees in technical institutes have of necessity to put in a period of apprenticeship in organised industry, and to enable them to do so, legislation has been passed making it obligatory for the industry concerned to receive such apprentices and to see to their practical training in an organised manner and through selected personnel of the industry concerned. It must not be felt by the industry that the training of these apprentices is a burden or is an unnecessary imposition upon them. We, therefore recommend that suitable legislation should be passed so that apprenticeship in industrial concerns may be part of the responsibility on industry and that every industry should take a certain number of apprentices for training. At the same time we feel that the best results will be obtained only by securing the whole hearted cooperation of industry, trade and commerce. We recommend that a small cess called industrial education cess' should be levied and that the proceeds of this cess should be utilised for the furtherance of technical education '

The commission further stated Technical education, if conducted on right lines will ultimately go a long way to lessen the expenditure incurred by industry and by the State and the people. At every stage of our industrial development, we are wasting our assets faster owing to lack of technically trained personnel. If only one tenth of this is invested in technical education is recommended it would lead to the training of technical personnel and the saving of ten times the amount now spent in importing machinery parts alone every year.'

With a view to evolving a comprehensive, functional, integrated and unoverlapping pattern of technical education, mainly at secondary education level, the commission observed and recommended as under :

"The All India council for Technical Education has at present six Boards of technical studies under it in the following subjects :

- (I) Engineering and Metallurgy,
- (2) Chemical Engineering and Chemical Technology,
- (3) Textile Technology,
- (4) Architecture and Regional Planning,
- (5) Applied Art,
- (6) Commerce and Business Administration.

"These Boards have framed schemes of courses and examinations in various subjects (a) at a level corresponding to degrees of universities, and (b) for training of supervisory personnel, such as chargeman, foreman, etc., both on full time as well as on part-time basis.

"Integration of these courses with the general curriculum at the secondary level will be a great advantage. Ordinarily, one would expect that the students, on completion of the secondary courses with the optional group of Engineering and Technology, would either take the full time courses in higher technical institutions or join the industry as apprentices, during which they would take advantage of the facilities provided by the part-time courses in conjunction with their practical training. In either case, the integration, as referred to above, will be useful.

"The present constitution of the Boards of technical studies provides for the representation of -

- (a) Association of principals of technical institutions;
- (b) Inter University Board;
- (c) Professional Bodies concerned;
- (d) Trade, Commerce and Industry;
- (e) Institutions affiliated to the council for the purpose of preparing students for the council's awards.

"In addition, there is provision for four nominees of the co-ordinating committee of the All India Council and three members co-opted by the Board itself. In order to give representation to persons engaged in secondary education, we recommend that either through the nomination by the co-ordinating committee or by co-option or by suitably amending the constitution of the Boards some places be reserved for them. The Boards of technical studies may be called upon to advise on

the content of the courses at the secondary level generally in so far as the technical subjects are concerned

In bringing about a closer co operation between the industry on the one hand and the institutions and the State Governments on the other the Regional committees of the council can play a useful part There will then be one committee for each of the regions viz the East West South and North These committees (will) have on them representatives of the state governments situated within the respective region, representatives of Industry Commerce and Labour representatives of Universities representatives of technical institutions and the Institute of Engineers (India) besides co opted members and representatives of the Central Ministry of Education Railways and Labour Such a representative body, would, in our opinion be very useful in establishing the necessary contacts and working out the apprenticeship training programme'

About the High schools and Higher Secondary schools in rural areas the Commission observed When many high schools and Higher Secondary schools with diversified courses are started in rural areas the need for residential accommodation would be increasingly felt, in fact the rural pupils will be seriously handicapped unless residential accommodation is provided for them In addition the residential schools can offer a type of education where the pupil can be better trained in social behaviour community life and social service and take part more fully in extra curricular activities than in a Day school This would, however, require that in residential schools some of the teachers should be in residence so that there may be large opportunities of contact between them and their students This will compensate to some extent for the lack of home surroundings and home influence Alternatively the Commission recommended Residential Day Schools "This is a type of school not common in our country so far where the pupils can come early in the morning and stay till late in the evening i.e between 9 a.m and 6 p.m The advantage of this Residential Day School is that most of the children will be able to utilise the facilities of the school for the greater part of the day Such facilities will include the full use of the play ground and the library opportunity for supervised study and extra curricula activities As in the case of the residential schools there will be greater teacher pupil contact which is so necessary for the education of character Such day schools would be specially useful in areas with a large industrial population where the poorer classes usually dwell and the sanitation is poor and there is little or no accommodation for children's work and play

The Commission strongly recommended setting up continuation classes for pupils who, for one reason or another, cannot attend schools regularly, "Although the Constitution has provided that all children upto the age of 14 should receive full time education, it seems to us that under the existing conditions it may not be possible to achieve this objective for many years to come. A large majority of the children will leave school at the age of 11 after completing their primary education and while some of them may go to Trade schools, the bulk of them will not have any opportunities for further study. Yet the age period 11 to 14 is a crucial period when it is necessary that the children should be in an educative atmosphere. We, therefore, recommend that, as an interim measure, some system of parttime continued education should be made available. Such education may be given to these pupils free in the middle and high schools after the usual school hours until the children attain the age of 14. The organisation of such continuation classes may be done by school authorities, other private individuals and societies. Special courses should be evolved to meet the needs of these part-time classes."

The commission also stressed education for girls and recommended that for girls-as well as for boys-education needs to be more closely connected with the home and the community. It should be less bookish in the narrow sense of word and more practical and should explore the possibility of training the mind through the hands. "If greater attention is given to Home Science, with special emphasis on practical work of every day needs and problems, it will help to bridge the gulf between the school and the life of the home and the community, and be a better preparation for a girl's life after school, in which home-making will necessarily play an important part."

The main facets of new organisational pattern clearly suggested by the Commission is recapitulated as under:

1. Education should commence after four or five years' period of primary or Junior Basic Education and should include the middle or Senior Basic or Junior secondary stage of three years, and the Higher secondary stage of four years.
2. The present Intermediate stage should be replaced by the Higher Secondary stage which should be of four years' duration, one year of the present Intermediate being included in it.
3. As a consequence of the preceding recommendations, the first degree course in the University should be of three years' duration..

- 4 Multipurpose schools should be established wherever possible to provide varied courses of interest to students with diverse aims, aptitudes and abilities
- 5 Those who have successfully completed such courses should be given opportunities to take up Higher Specialised courses in polytechnics or Technological institutions
- 6 All states should provide special facilities for Agricultural education in rural schools and such courses should include Horticulture, Animal Husbandry and Cottage industry
- 7 Technical schools should be started in large numbers either separately or as part of Multipurpose schools
- 8 Central Technical Institutes should be established in large cities which may cater to the needs of several local schools
- 9 Wherever possible Technical schools should be located in close proximity to appropriate industries and they should function in close co-operation with the industry concerned
- 10 Suitable legislation should be made for making it obligatory for the industry to afford facilities to apprentices and students for practical training
- 11 In planning of Technical and Technological education at all levels representatives of commerce and industry should be closely associated with the educationists so that in the planning and direction of such education and in the maintenance of students their views may be given effective weight
- 12 A small cess to be called the Industrial Education Cess' should be levied on industries and the proceeds of the cess should be used for the furtherance of technical Education

These precious suggestions made by the Commission with a view to rebuilding the nation on concrete foundation of functional education hold good in the present context also about a generation later. Not that the recommendations of the commission were not given thoughtful considerations by educational thinkers, planners and executives through a series of meetings, seminars and conferences but these recommendations could not materialise in our educational organisation in the spirit and aims in which they were made by the Commission. The interconnections and comprehensive nature of these recommendations were lost sight of and a few stray efforts were made through plan projects for granting multipurpose pattern of courses to a few schools strengthening technical education in a patchwork fashion, and half hearted measures to

grant agricultural bias to a few high schools which are surpassed in this particular area by post-basic schools. These pilot-projects in the country depended upon central assistance which constantly remains below the knife of casualties which results in budget-cut or in diminished assistance from the centre to the State or from abroad to the Centre. A proper training-process could not be evolved for training suitable, resourceful, skilled teachers for such schools, including Technical and Agricultural High schools and for training suitable, resourceful supervisors and administrators. The result of such a piece-meal approach to these valuable recommendations is that the product of the existing multipurpose schools sail in the same boat as with the product of ordinary academic schools. The recommendation of the Commission to replace Intermediate stage by adding one year to high school and one year to the first degree course has still to be pursued against so many currents flowing from various sources which fear adverse affection to their interests if this recommendation is put to practice. This particular issue has become a hot bed of controversy at present all over the country. This controversy is discussed at length - later in this book.

About the teaching of languages at the school stage, the Commission stated - "Under the present circumstances, it should be possible for a child to learn three languages. It is no doubt true that the scripts being different, the strain will be a little heavy, but we believe that it is easier for the child to learn these languages at an early stage. At the Senior Basic or the middle school stage, therefore, when the child has already learnt the mother tongue and it will continue to pursue its study, Hindi and English may be introduced. A principle, which we feel is necessary to observe is that two different languages should not be introduced at the same time and therefore one of them should be introduced in the initial stage and the other a year later. At the lower secondary or Senior basic stage it should be left to the pupil concerned to continue the study of one or the other of two languages, viz. Hindi and English and to take to a classical language at the High school or Higher secondary school should he so desire. However, in regard to some of the vocational courses taken in a diversified scheme of studies at high school or higher secondary stage, it may be necessary that English should be continued."

"There is a serious dearth, at present, of well qualified and experienced teachers who can handle English classes in schools and colleges. We believe this is one of the important reasons for deterioration in the standard of English at the University stage"

"We endorse the recommendations made by the Conference of professors of Hindi that the standard in Hindi areas should be progressively raised, while in the non-Hindi areas the standard should be based mainly on the student's capacity to comprehend the language and use it in everyday situations."

On the provision of craft and productive work, the Commission held the view as under

"We expect the schools to devote special attention to craft and productive work and thus redress the balance between theoretical and practical studies which had been upset for many years. It will have a lively appreciation of the basic truth that "the education of a mind is essentially a process of revivifying in it the latent values contained in the goods of culture." In this process, educationally productive work, both intellectual and practical plays a very important part; in fact it is the finest and most effective medium of education. It will, therefore, be reflected both in each curriculum and methods—that is, on the one hand different practical subjects and craft-work will find a place in the curriculum on the same status as the so called 'liberal studies' and, on the other, the teaching methods will partake of the nature of activities and stimulate independent work. Every well-established and reasonably well-financed school will have work-shops and craft-rooms where students will learn to handle tools and to fashion different kinds of materials into form. They will not be merely 'flirting' with something called hard work, but will actually be confronted with real jobs of work which will genuinely stretch their powers. These craft-rooms, workshops (and firms), no doubt, are specially meant for students who offer practical subjects like agriculture, engineering, domestic science etc, but they will also provide suitable practical occupations for all students including those who take up sciences, or humanities, or art subjects. Likewise the school laboratories will not be a toy-affair, where a few simple and carefully planned experiments are performed under vigilant eye of the teacher who sees that the prescribed routine is followed. It will endeavour to give them something of the thrill and the joy of discovery and the deductive experience of learning through trial and error. It would be wrong to imagine that practical work of this type cannot be carried out in secondary schools. It has been done by many progressive schools in different countries."

The Commission stressed the school as a centre of community. The school should be organised as a community. They said, "It will not confine itself to book-learning and the teaching of prescribed knowledge

and skills but it will give full room for the expression of the pupil's social impulses. It will train them, through practical experience in subordinating personal interests to group purposes, in working in a disciplined manner and in fitting means to ends. The school will, no doubt, be a community but it will be a small community within a large community and its success and vitality will depend on the constant interplay of healthy influences between it and the large community outside. What we would like to see is a two-way traffic so that the problems that arise in the home and community life and the realistic experiences gained there should be brought into school so that education may be based on them and be intimately connected with real life, and on the other hand, new knowledge, skills, attitudes and values acquired in the school should be carried into the home life to solve its problems to raise its standards and link up the teachers, parents, and children in one compact and naturally helpful group. This principle will have other implications too. It will mean that students will take an active part in various forms of social service for the good of the community and the school will not only inculcate the ideals and desire for social service but also provide opportunities and the necessary material facilities. One of the dominant aims of the school in the provision of all these social and practical activities and on organising class-work on a new basis will be to educate the character and to inculcate the right kind of ideals and values in the students. It will utilise fully the only two media through which character and personality can be really formed the living force of personal example and the organisation of every single item of school work in such a way that it will have the desired impact on the personality of the pupils."

This role of the school as a centre of the community can be well supported by a properly planned programme of co-curricular and extra-curricular activities and by provision of a proper environment. The Commission observed, "The first concern of the schools should be to provide for its pupils a rich, pleasant and stimulating environment which will evoke their manifold interests and make life a matter of joyful experiences. If their enthusiasm and practical aptitudes are properly and tactfully mobilised, they can themselves change the general appearance of the school plan almost beyond recognition and in this effort, parents and the local community can be of immense help. We have no doubt that under proper encouragement students all over India can, if necessary, carry out minor repairs, whitewash school room, keep the school garden and compound in good shape, paint and polish the furniture, decorate the bare walls of their rooms with charts, pictures and illustrations

and enliven them with flowers wherever the loveliest of nature's gifts is available. The school has to formulate a scheme of hobbies, occupations and projects that will appeal to and draw out the powers of children of varying temperaments and aptitudes. The school is a living and organic community which is primarily interested in training its pupils in what we call the gracious art of living, knowledge and learning are undoubtedly of value but they must be acquired as a bye-product of interested activity, because it is only then that they can become a vital part of the student's mind and personality and influence his behaviour. The 'art of living' is a much more comprehensive concept than the acquisition of knowledge, however, intelligently planned. It includes training in the habits and graces of social life and the capacity for co-operative group-work; it calls for patience, good temper, sincerity, fellow-feeling and discipline. These can only be cultivated in the context of the social life and the many curricular and co-curricular activities that must find a recognised place in every good school. We would like to see these schools humming with activities in which each student will be able to discover himself. One great advantage of the activity methods will be that the rigid line of demarcation between the class room and the extra-curricular activities - carried on in leisure or in the hobbies room or in the library - will disappear and all work will partake of the quality of play. The entire programme of the school will be visualised as a unity and inspired by a psychologically congenial and stimulating approach, the so called 'work' being characterised by the feeling of joy and self-expression usually associated with play and hobbies, and these later having something of the meaningfulness and purpose which are normally considered a special feature of academic work. In the planning of these activities, it is important to remember that they should be as varied as the resources of the school will permit. Academic activities like debates, discussions, dramas, school magazine, social activities, like organising of different fuctions for the school community as well as the local community, sport activities, manual and practical activities, social service projects, art projects, must all be woven into a rich and unified pattern, within which every child will be able to find something to suit tastes and interests. In the actual working out of these various activities, academic, social, practical and sporting - the teachers will find that there are really no rigid boundary walls between them. Thus, by planning a coherent programme of different activities, rich in stimuli, the school will not be frittering away either the time or the energy of the pupils but will be heightening their intellectual powers also side by side with training them in the other fine qualities."

The Commission considered the criticisms levelled against the school curriculum in vogue which are enumerated below :

1. The present curriculum is narrowly conceived.
2. It is bookish and theoretical.
3. It makes inadequate provision for practical and other kinds of activities which should reasonably find room in it, if it is to educate the whole of the personality.
4. It is overcrowded, without providing rich and significant contents.
5. It does not cater to the various needs and capacities of the adolescents.
6. It is dominated too much by examinations.
7. It does not include technical and vocational subjects which are so necessary for training the students to take part in the industrial and economic development of the country.

Regarding undue emphasis on bookish knowledge, the Commission observed : "Owing to the great influence that the college curriculum exercises over the secondary school curriculum the latter has become unduly bookish and theoretical and deals largely with abstractions and generalisations. The High school pupils do not yet possess the intellectual maturity to deal competently with abstract theories and generalisations. In fact, under normal circumstances, the majority of High school leavers do and should enter into practical life. For such students a narrowly conceived bookish curriculum does not obviously provide the right kind of preparation. They need to participate in various kinds of intellectual and physical activities, practical occupations and social experiences which is not possible through the mere study of books. In many educationally progressive countries, its scope has been very much widened and its purpose is to cater for the entire range of the pupil's interests and capacities-intellectual, physical, emotional, aesthetic and social. For his all round development, we must provide a wide and varied range of occupational activities and experience. We must give him practical training in the art of living and show through actual experience how community life is organised and sustained. We have to do all this, not because we necessarily want our pupils to start their living immediately, but because such knowledge and experience contribute to the all round growth of their personality. It is not often realised that the complaint of over-crowding is largely due to the multiplicity of subjects, presented as separate entities, without bringing out their organic interrelationship. Our curriculum makers have usually suffered from the besetting sin of the 'specialist' who tries to

put as much of his favourite subject matter as possible into the curriculum and the text books and is more concerned with the logical and scientific demands of the subject than the needs the psychology and the interests of the learners We are convinced that unless the syllabus of every school subject is on the one hand lightened by dropping over board the cargo of inert uninteresting subject matter and on the other hand, enriched by the inclusion of interesting and significant material that will give joy and insight to students, it cannot become a truly educative medium And the criterion for deciding what is interesting or uninteresting, significant or otherwise must not be the recommendation of the scientist or the historian or geographer or literateur but the attitude of the students and intelligent, understanding of teachers In view of the importance of this matter, we would recommend as a proposal of high priority, the establishment in each state and the Centre preferably in association with teachers training institutions of Bureaus or Boards charged with the duty of curricular research on lines which have been successfully tried in some Western countries, notably the United States It should be the function of such boards constantly to evaluate and shift the existing curricula in the light of students' psychological interests as well as the changing and developing sociological needs The details of the curricula in each subject should be settled on the basis of this continuous research

The commission also highlighted the lack of adaptation to individual differences and said 'During the period of adolescence pupils develop individual tastes interests and special aptitudes but the present curriculum hardly takes note of these individual differences At one time it was generally held that these differences begin to manifest themselves at about the age of 11 and this provided the basis for a break at that age in the educational pattern But later research tend to the conclusion that this development takes place nearer 13 In England three broad categories are recognised Academic technical and practical corresponding to which there are three different types of Secondary schools- Grammar, Technical and Modern In India also a few states have made an attempt to introduce different types of secondary courses for pupils of different abilities High school courses do provide certain Option but very often the scope and range of such options are narrow and limited What is needed is a broadly conceived curriculum which will give free room for the development of different types of abilities through studies and activities congenial to such development

About the lack of provision for technical and vocational studies, the Commission commented There is a long standing complaint that

secondary schools have made no provision for technical and vocational subjects.... Provision for Technical Education must go along with the development of industries; it cannot precede or bring about such progress. Lack of industrial and commercial development in the country was responsible for the unpopularity of such courses wherever they were introduced. Absence of well-trained teachers and proper material facilities was another contributory factor. Moreover; the immense prestige of the universities and the lure of their academic courses also stood in the way of those new courses meeting with proper response. The situation has, however, changed now. Our industrial revolution has started and, under its impact, the character of Indian economy has begun to change slowly but inevitably. The second world war has greatly hastened the process and accelerated the pace in industrialisation. With the attainment of political freedom, the expansion of industries has become an integral part of national policy. In the field of secondary education this calls for introduction of diversified types of courses to meet the need of an expanding industrial economy. If Secondary education remains exclusively academic and does not develop practical studies and aptitudes, suitable candidates will not be forthcoming for admission to technical institutions which will not therefore be able to pull their full weight in our national life. In fact, it is the special function of Secondary Education to provide the country with the second line of its leaders in all walks of national life- art, science, industry and commerce."

The commission enunciated the basic principles of curriculum construction as under:

1. "In the first place, it must be clearly understood that according to the best modern educational thought, curriculum in this context does not mean only the academic subject, traditionally taught in the school but it includes the totality of experiences that pupil receives through the manifold activities that go on in the school, in the classroom, in the library, in the laboratory, in the workshop, on the playground and in the numerous informal contacts between teachers and pupils. In this sense, the whole life of the school becomes the curriculum which can touch the life of the students at all points and help in the evolution of balanced personality.

2. Secondly, there should be enough variety in the curriculum to allow for individual differences and adaptation to individual needs and interests.

3. Thirdly, the curriculum must be vitally and organically related to community life, interpreting for the child its salient and significant

features and allowing him to come into contact with some of its important activities. Obviously, this would imply giving an important place to productive work which is the backbone of organised human life. The teachers should build up in the minds of students a lively sense of being an integral part of the local community and the local community should be enabled to realise that the school is a vital and invaluable part of its life.

4. Fourthly, the curriculum should be designed to train the students not only for work but also for leisure. A variety of activities-social, aesthetic, sport etc. - should be introduced in the school.

5. Fifthly, it should not stultify its education value by being split up into a number of isolated, unco-ordinated water-tight subjects. Subjects should be inter-related and within each subject, the contents should so far as possible be envisaged as 'broad fields' units which can be co-related better with life rather than narrow items of information."

Keeping these basic principles of curriculum construction in view, the Commission indicated, in broad outline, the curriculum for the future secondary schools at both levels-middle and senior Basic schools catering generally for the pupils of the age-group 11 to 13 and High schools and Higher secondary schools providing a three years' course and a four years' course respectively, to the pupils of the age-groups 14 to 17.

The Commission held the view that the middle or senior Basic school being continuation of primary (Junior Basic) stage, the course of middle schools must not differ materially from the senior Basic course. "The special function of the curriculum at the middle stage is to introduce the pupil in a general way the significant departments of human knowledge and activities. These will naturally and obviously include language and literature, social studies, natural sciences and mathematics which have always formed part of every secondary school curriculum. But there are a few other subjects whose claims are not so freely admitted, or are admitted in audging manner so that their position in the curriculum is regarded as ornamental or at least secondary. In this group, we include Art, Music and Craft, whose inclusion in the school curriculum is valuable for the proper development of every pupil, so essential for building up a healthy, balanced personality. As the intellectual development comes through the study of various subjects, so physical development comes through various forms of activities. The middle school is not the place for specialisation, but

the stage when a general introduction to all the broad and significant fields of knowledge can and should be given. The purpose, therefore, is twofold; the child as the inheritor of the treasures of human civilization has the right, firstly, to know what its main components are, and, secondly, as a result of acquiring that knowledge to choose at a later stage, the particular field in which he can in his own way contribute his share to this fund of human culture. The curriculum must not be overloaded with too many facts and items of information with what Whitehead has called 'Dead bits of knowledge.' The aim should be to give the child an appreciation of human achievement in different fields, to widen his outlook and broaden his sympathies. Keeping in view these considerations, we suggest the following broad outline of middle school curriculum :

1. Languages
2. Social Studies
3. General Science
4. Mathematics
5. Art and Music
6. Craft
7. Physical Education

"Under languages, will come the mother-tongue, the natural medium of self-expression or the regional language. Next would come the official language of the Republic i.e. Hindi, a knowledge of which is necessary in the wider interests of national life and national unity. Where Hindi is the mother tongue, pupil may study another language. Every school should make provision for the teaching of the official language, Hindi and the international language, English. It may, however, be provided that English is not to be treated as a compulsory subject of study if the pupil or guardian does not wish it to be studied. In case of those pupils who do not desire to study English, an alternative arrangement should be made for the study of another language. In schools which provide for the study of English on an optional basis, there should be an alternative arrangement for an advance course in the mother-tongue for those who do not take optional course in English. With two other languages besides the mother tongue, the course in languages will be rather heavy. It is unavoidable in a country like ours which has a multiplicity of languages and we should be prepared to pay this price for the wealth of our linguistic heritage With regard to crafts we would like to emphasise the importance of the local crafts and the use of local materials. They have a tradition behind them which will be familiar to every child in the locality."

As regards the curriculum at the High schools and Higher Secondary schools, the Commission proceeded on the assumption that by the end of the Middle or Senior Basic school the special abilities and interests would generally be taking form in cases of most of the pupils and stated that the curriculum at the High schools and Higher Secondary Schools should, as far as possible be framed on the basis of these abilities and interests and that varied courses with a fairly wide latitude of choice should be provided at these stages. They also put in a caution note on this statement, that this should not be treated as *specialisation* in the narrow sense of the word.

The Commission observed In a normally functioning educational system not more than twenty five to thirty percent of the pupils in High Schools are likely to go to the universities and other institutions of the higher learning such as technological and similar institutions. So most of them have to think of earning a living and the educational programme should give them some training in this direction not so much in terms of specific vocations as in training their practical aptitudes in the preparation for definite vocational work later. The educational programme will not be narrowly vocational but we have a definite vocational bias. They were of the view that specialisation leads towards one-sided development of the pupil at the cost of the total, balanced growth of his personality and they, therefore, affirmed that, with vocational bias the course should also give the pupil a reasonable amount of general education so that he may be fit to discharge his duties as a human being and citizen trained in the greatest of all arts the art of living. They stated In fact with the great advances during the last hundred years in science and technology the concept of culture itself has become wider and more comprehensive, science and technology are as much a part of it as the older disciplines of liberal studies. It is this approach which will have to be adopted in our secondary institutions distinguishing them from the purely vocational schools.'

In view of some differences existing between middle schools and senior Basic schools as regards the courses and methods of teaching the Commission suggested that in the first high school year the courses should follow to some extent, the general pattern of courses in the preceding stage and that differentiation should come in the second year.

Entering into the details of courses at Secondary stage the commission recommended The courses in the High schools and the Higher Secondary Schools should follow the same pattern. They will consist of certain core subjects common to all and certain optional subjects. Com-

plete freedom of choice without any guidance either from parents or from teachers is not educationally desirable and in the choice of subjects within a group the pupil should get the benefit of expert educational guidance. The curriculum, as we envisage it, will consist of the following:

(A) 1. Mother tongue or regional language or a composite course of the mothertongue and a classical language.

2. One other language to be chosen from among the following:

- (a) Hindi (for those whose mother tongue is not Hindi).
- (b) Elementary English (for those who have not studied it in the middle stage.)
- (c) Advanced English (for those who had studied English in the earlier stage).
- (d) A modern Indian-language (other than Hindi)
- (e) A modern foreign language (other than English)
- (f) A Classical language.

(B) 1. Social Studies : General course (for the first two years only)

2. General Science : Including Mathematics-General course (for the first two years only).

(C) One craft to be chosen from the following list (which may be added to, according to the needs) :

- (a) Spinning and weaving
- (b) Woodwork
- (c) Metal work
- (d) Gardening
- (e) Tailoring
- (f) Typography
- (g) Workshop practice
- (h) Sewing, needle work and embroidery
- (i) Modelling

(D) Three subjects from one of the following groups :

Group I. Humanities

- (a) A Classical language or a third language from A (2) not already taken
- (b) History
- (c) Geography
- (d) Elements of Economics and Civics

- (e) Elements of psychology and logic
- (f) Mathematics
- (g) Music
- (h) Domestic science

Group II. Sciences

- (a) Physics
- (b) Chemistry
- (c) Biology
- (d) Geography
- (e) Mathematics
- (f) Elements of physiology and Hygiene (not to be taken with Biology)

Group III Technical

- (a) Applied Mathematics and geometrical drawing
- (b) Applied Science
- (c) Elements of Mechanical Engineering
- (d) Elements of Electrical Engineering

Group IV Commercial

- (a) Commercial practice
- (b) Book-keeping
- (c) Commercial geography or Elements of Economics and civics
- (d) Short hand and Typewriting

Group V Agriculture

- (a) General Agriculture
- (b) Animal Husbandry
- (c) Horticulture and Gardening
- (d) Agricultural Chemistry and Botany

Group VI Fine Arts

- (a) History of Arts
- (b) Drawing and Designing
- (c) Painting
- (d) Modelling
- (e) Music
- (f) Dancing

Group - VII - Home Science

- (a) Home Economics
- (b) Nutrition and Cookery
- (c) Mother craft and Child Care
- (d) Household Management and Home Nursing

(E) Besides the above, a student may take at his option one additional subject from any of the above groups irrespective of whether or not he has chosen his other option from that particular group.

We have recommended that a general course in social studies and general science should be provided at the High school stage for those who do not take up these core allied subjects among their optionals. These two subjects together with the languages and craft will really form the common core of the High school course To this will be added the group of special subjects chosen by the pupil in accordance with his ability and interests "

The Commission recommended inclusion of craft in the curriculum at Secondary school level on the conviction that "every student should devote some time to work with the hands and attain a reasonably high standard of proficiency in one particular craft, so that, if necessary he may support himself by pursuing it" and stated

"It is not on economic grounds only that we make this recommendation By working with the hands the adolescent learns the dignity of labour and experiences the joy of doing constructive work There is no greater educative medium than making with efficiency and integrity, things of utility and duty. It trains practical aptitudes, facilitates clarity of thinking, gives chances for cooperative work and thus enriches the entire personality."

The Commission stressed the point "What is really needed, is a new orientation and a new approach" and stated "A curriculum can not be regarded as fixed for all times it should be a matter of constant experimentation with a view to revising it from time to time according to changing needs. The bounds of human knowledge are constantly expanding and, therefore, it is essential to go on examining and evaluating the contents of the curriculum adding to it significant new items and weeding out from it whatever has ceased to have direct significance for the pupil and his immediate and future life Therefore there is an urgent need for curricular research in our country."

prescribed, a high text book committee should be constituted which should consist of a high dignitary of the judiciary of the State, preferably a judge of the High court, a member of the Public Service Commission of the region concerned, a Vice-Chancellor of the region, a Head master or Head Mistress in the State, two distinguished educationalists and the Director of Education. This Committee should function as independent body."

Some other valuable suggestions of the Commission as regards text books are as under :

1. "The text book committee should lay down clear criteria for the type of paper, illustrations, printing and format of the text book.
2. The Central Government should set up a new institution, or help some existing Art Schools to develop training in the technique of book illustrations.
3. The Central and State governments should maintain libraries of blocks of good illustrations which could be loaned to Text Book Committees and publishers in order to improve the standard of book illustrations.
4. Single text-book should not be prescribed for every subject of study but a reasonable number of books which satisfy the standards laid down should be recommended leaving the choice to the schools concerned.
5. In the case of languages, however, definite text-books should be prescribed for each class to ensure proper gradation.
6. No book prescribed as text book for general study should contain any passage or statement which might offend the religious or social susceptibilities of any section of the community or might indoctrinate the minds of the young students with particular political or religious ideologies.
7. Frequent changes in the text books prescribed for study should be discouraged."

The Commission charged the methods of teaching, practised in the schools, as mechanical, unpsychological and dysfunctional and the school programme as stereotyped routine of work. They observed : "Any method, good or bad, links up the teacher and the pupils into an organic relationship with constant inter-action; it reacts not only on the mind of the students but on their entire personalities, their standards of work and judgment, their intellectual and emotional equipment, their attitudes and values..... The highest value that all methods should try to inculcate is love of work and desire to do it with the

highest measure of efficiency of which one is capable. There are only two real educative media, contact with a rich and well integrated human personality and sincere, wholehearted preoccupation with worthwhile work, intellectual as well as practical..... It is the proper habit or work and insistence on them in every detail and over a long period of time that create the requisite attitudes and values..... Knowledge is the fruit of personal effort and purposeful intellectual and practical activity. Only such methods should be adopted as will give concreteness and reality to learning and help to break the barriers between life and learning and between the school and the community. It is desirable that the methods of teaching should expand the range of students' interests. The normal adolescent is naturally interested in many things and in the class room, on the play ground, during excursions and in their social and extra curricular activities, the intelligent and wideawake teacher has numerous opportunities to kindle new interests, to expand and strengthen existing ones and to satisfy their innate desire to touch life at many points. It is by exploring different avenues of interests and activities that he can truly discover himself and begin to specialize in due course...Students can put in their best efforts only when the relationship between their life and their lessons is made manifest, for this will create the necessary feeling of interest and provide the requisite motivation...If the activity approach is adopted; if there is imagination in planning work and freedom in its execution, the present bookish schools can be transformed into 'work-schools' or 'activity schools' and they can become genuine centres of education for the whole personality of the child. This approach also postulates that practical and productive work should find a prominent and honoured place in the school programme."

The Commission laid great emphasis on teaching to learn and affirmed: "With the great increase in the knowledge that has taken in every single field, it is quite impossible for a student not only in the Secondary school but even in the university to acquire even one-hundredth of the most essential knowledge in any particular field of studies. Any attempt, therefore, at an encyclopaedic approach, however watered down, is foredoomed to failure. The teacher must concentrate on two things, - quickening of interest and training in efficient techniques of learning and study. The emphasis, therefore, shifts from the quantum of knowledge to the right methods of acquiring it. For this purpose, it is essential that every student should be trained in the art of study."

The commission noted that the present practice of mechanically applying the same methods to dull, average as well as bright children is responsible for much of the ineffectiveness of the instruction given.

in schools and that if these various groups of children are allowed to proceed at their own appropriate pace and the method approach as well as the curriculum load are properly adjusted, it will be good for all of them- it will save the dull children from discouragement and the bright children from a sense of frustration. The Commission recommended arrangement of curriculum of three streams- A, B and C for the bright, the average and the dull children respectively-the C stream including only the minimum essential subject matter simpler and lighter curriculum as well as syllabus in each subject.

Recommending cooperative or group work in learning processes the commission observed 'A wise teacher must balance the claims of individual work with co operative or group work. In actual life it is just as important to possess qualities of good tempered cooperation discipline and leadership so as to have the capacity for personal initiative and independent work. The genuine training of emotions attitudes and social capacities takes place best in the context of projects and units of work undertaken cooperatively. It is the give and take of shared experiences that brings out the quality of leadership inculcates habits of disciplined work and takes the individual out of this potentially dangerous and emotional isolation. The teacher should visualise and organise at least a part of the curriculum in the form of projects and activity units which groups of students may take up and carry to completion. In fact there are numerous resources in the life of every community which can and should be utilised for educational purposes. Such an approach will vitalise the school and also help to improve the conditions obtaining in the community."

good role in the liberalising of the education of the school children and recommended that a central library of educational films should be available in each state and that films of great value be sent from the Central Government to the states periodically, stressing further that educational films suited to Indian conditions should be taken and made available to schools.

The commission recommended functional school broadcast programme as a very efficient supplement to education and stated : "Care must be taken to see an expert panel of headmasters and teachers is constituted to decide on (a) the subject to be dealt with, and (b) the manner in which it ought to be dealt with, and (c) persons competent to give such a talk."

The Commission laid great stress on school discipline stating that the real purpose of education is to train youth to discharge the duties of citizenship properly and that all other objectives are incidental. But discipline is not the sole responsibility of the school. They said, "Discipline, therefore, should be a responsibility of parents, teachers, the general public and the authorities concerned...In regard to school life itself a greater responsibility should devolve upon the students themselves in the maintenance of discipline." It is from this point of view that we recommend what is known as the house system in schools, with prefects or monitors of student councils, whose responsibility it will be to draw up a code of conduct and to enforce its observance in the school. Another method of bringing home to pupils the value of discipline is through group games." The Commission further put a caution note, "The discipline of the youth of any country rests upon the discipline that is exercised by elders. It is a well known fact that in all democratic institutions, election time is a time of feverish activities not always conducted in the most healthy spirit, and the utilisation of immature mind for purposes of campaigns with or without slogans attached thereto is not calculated to promote sound discipline among students. We think it unfortunate that such trends are on the increase. If, therefore, some of the unhealthy trends of political life are to be avoided in school life, a serious attempt should be made to see that children under the age of 17, who are in schools are not drawn into the vortex of controversial politics and are not utilised for election purposes ..Lastly, discipline among students can only be promoted if there is discipline among the staff. Both within the school and in organisations connected with the teaching profession, the teacher has always to realise that all his activities are being watched by the pupils. To that extent, therefore, both in his personal conduct and in his general attitude to all problems concerning

the country, he has to realise that there are limitations within which he must act for the best interest of the profession Religious and moral instruction also play an important part in the growth of the profession Healthy trends in regard to religious or moral behaviour spring from the sources

- 1 The influence of the home which is the dominant factor,
- 2 The influence of the school through the conduct and behaviour of the teachers themselves and life in the school community is a whole,
- 3 The influence exercised by the public of the locality and the extent to which public opinion prevails in all matters pertaining to religious or moral codes of conduct "

The Commission recommended encouragement to Scout and Guide activities, N C C, training in First aid, Junior Red Cross and St John's Ambulance and various extra-curricular activities(hiking rowing swimming, excursions, debates dramas drawing and painting, gardening etc) with a view to building up the tone of the schools as well as the character and growth of varied interests and abilities of the pupils in the school with a remark

"The secret of good education consists in enabling the student to realise what are his talents and aptitudes and in what manner and to what extent he can best develop them so as to achieve proper social adjustment and seek right type of employment "

To realise this the commission advocated guidance service in the school so as to make pupils realise their talents and aptitudes and to guide them towards proper and suitable types of vocational courses or higher education as well as towards the solution of each pupil's personal educational and behavioural problems Regarding guidance, the commission observed Guidance involves the difficult art of helping boys and girls to plan their own future wisely in the full light of all the factors that can be mastered about themselves and about the world in which they are to live and work Naturally therefore it is not the work of a few specialists but rather a service in which the entire school staff must cooperate under the guidance of some person with special knowledge and skill in this particular field Guidance in this sense is not confined to vocational field only It covers the whole gamut of youth problems and should be provided in an appropriate form at all stages of education through the cooperative endeavours of understanding parents teachers, headmasters principals and guidance officers A good guidance officer possesses many good qualities He must have an understanding of youth and their problems based on scientific

knowledge but inspired with sympathy and the ability to look at life through the eyes of boys and girls. He should have special training in good counselling methods, mental hygiene and in the discriminating use of tests and school records. In the field of vocational guidance, he should have an accurate knowledge of occupational opportunities and requirements. He must have ample time for conferences with pupils, parents and employers, and he must be fully familiar with the purpose and programme of the school and have the capacity to work in close co-operation with the teachers. In all schools a good deal of guidance work will have to be done by the teachers in the class through informal contacts with their students. Accurate, comprehensive, and continuous information about occupations and about institutions of higher study should be made available to the pupils. Vocational and educational guidance should be made available to the individual at different stages because of the possible changes that are likely to occur in the nature of the occupation. Care should be taken to see that students do not decide upon a vocation too early or too hurriedly, but only after a careful study of the openings available and in the light of experience gained through trials. There should, therefore, be provision for a reconsideration of their plans at the different stages of education... The development of new types of visual aids provides unlimited possibilities for the pupils to obtain knowledge of the different occupations open to them at different stages of their educational ladder. Thus to broaden the pupils' understanding of the scope, nature and significance of the occupations or industries, films should be available which not only depict the actual nature and conditions of work in a particular industry but also supplement this with information concerning the daily routine of the workers on the job."

The commission strongly recommended that there should be in India a centre for the training of guidance officers and career masters and their services should be made available in an increasing manner, to all educational institutions so that guidance may be given to students at different levels of education, particularly at the secondary stage at which decisions about employment have to be taken by a large majority of students. They also recommended that Central Research Organisation might be established for carrying out research in educational and vocational guidance and for the preparation of tests with particular reference to Indian conditions and the needs of the pupils concerned and the opportunities available to them from time to time.

The Commission emphasized that every student in the school requires to be trained in sound health-habits both at school and at

home and that thorough and complete medical examination, with suggestive follow-up measures should be an annual feature in every school and that training in First Aid and fundamental principles of health as well as detection of deviations from normal standards should form a part of the instruction prescribed for all teachers in Training colleges

Stating that physical education is much more than drill or a series of regulated exercises, the commission held the view that its various activities should be planned so as to develop the physical and mental health of the students, cultivate recreational interests and skills and promote the spirit of team-work, sportsmanship and respect for others and that it includes all forms of physical activities and games which promote the development of the body and the mind. They, however warned that, though most of these activities are group activities they should be made to suit the individual as well taking due note of the capacity for physical endurance. The Commission stated 'There are various types of physical exercise that can be taken up by students with the necessary aptitudes, outside the school under the auspices of other agencies in the community interested in physical education, e.g. swimming, boating, hiking, and group games may be locally popular. Where such facilities are available, special arrangements should be made for school children to avail of them under proper guidance and special hours may be fixed for them in some cases, e.g., in swimming baths and Akhadas etc.'

The commission laid stress on the participation of all teachers under forty years of age in the programme of physical education. Physical education can be success only if such a participation is ensured and if physical education is not concerned as a subject to be handled by the physical education teacher only.

About the present system of examination in our schools, the commission observed "Both the internal and external examinations in this country are more or less modelled on similar lines and they follow the same general pattern. Both are intended to test mainly the academic attainments of a pupil and his progress in intellectual pursuits. These do not test the other aspects of the pupil development, or, if they do, it is only indirectly. The twentieth century has witnessed a widening of the meaning and scope of education. The school of today concerns itself not only with intellectual pursuits but also with the emotional and social development of the child, his physical and mental health, his social adjustment and other equally important aspects of his life - in a world, with an all round development of his

personality If the examinations are to be of real value, they must take into consideration the new facts ”

In our present set up, “the examinations determine not only the contents of education but also the methods of teaching – in fact the entire approach to education They have so pervaded the entire atmosphere of school life that they have become the main motivating force of all efforts on the part of the teacher as well as the pupil ”

“ But neither the external examination nor the internal examination, singly or together, can give the correct and complete picture of a pupil's all round progress of any particular stage of his education, yet it is important for us to assess this in order to determine his future course of study, or his future vocation For this purpose a proper system of school records should be maintained for every pupil indicating the work done by him in the school from day to day, month to month, term to term and year to year Such a school record will present a clear and continuous statement of the attainments of the child in different intellectual pursuits throughout the successive stages of his education It will also contain a progressive evaluation of development in other directions of no less importance, such as the growth of his interests, aptitudes and personality traits, his social adjustments, the practical and social activities in which he takes part It has been said that the introduction of cumulative records will increase the responsibilities of teachers and add to their work This is no doubt true But the advantages would outweigh the personal disadvantages to teachers And once they become used to the system they themselves will come to appreciate the advantage of such school records The cumulative records will greatly influence their work in the class room, specially their methods of teaching and handling children, so much so that the entire character of their work will change In order to maintain the cumulative records cards properly, the teachers will have to apply a number of tests, of different kinds – intelligence tests, attainment tests, aptitude tests and others ”

As regards evaluation, the commission recommended the use of five point scale to which 'A' stands for excellent, 'B' for good and 'C' for average 'D' for poor and 'E' for very poor They remarked, “ In this system pupils are grouped in broad divisions which are not easily distinguishable compared to the differences indicated by percentile marks

We recommend that this system be adopted for school records For written examinations whether external or internal, the same scale may be used with this modification that here 'D' and 'E' will be

combined to indicate failure. Here 'A' will indicate (excellent or) distinction, 'B' Credit and 'C' pass."

The commission recommended that there should be only one public examination to indicate the completion of the school course. It may be either High School Final Examination or the Higher Secondary Examination depending on the nature of the school where the pupil completes his course.

The commission stressed the need for better-equipped teaching personnel and suggested two types of institutions for teacher training: (1) for those who have taken the school leaving certificate or the Higher school leaving certificate there should be a two years teacher training; and (2) for graduates for whom the training should be of one academic year but the same should be of two years duration in the long run.

The commission made valuable suggestions for improvement of the teaching personnel, some of which are stated below:

(1) Teachers working in High schools should be graduates with a degree in education; those who teach technical subjects should be graduates in the subject concerned with the necessary training for teaching it; teachers in higher secondary schools should possess higher qualifications, somewhat similar to those prescribed in some universities for teachers of the Intermediate colleges.

(2) The teachers in training should receive training in one or more of the various extra-curricular activities.

(3) The training colleges, should as a normal part of their work, arrange refresher courses, short intensive courses in special subjects, practical training in workshops and professional conferences.

(4) The training college should conduct research work in various important aspects of pedagogy and for this purpose it should have under its control an experimental or a demonstration school.

(5) There should be a free exchange between professors in Training colleges, selected headmasters of school and Inspecting officers.

The commission also made some very important suggestions regarding organisation and administration of school education. A few glaring suggestions are as follows:

(1) There should be a Board of Secondary Education consisting of not more than 25 members with the Director of Education as its Chairman to deal with all matters of education at the Secondary stage and to lay down general policies. A sub-committee of the Board should deal with the conduct of examinations.

(2) There should be a Teachers' Training Board for supervising and laying down conditions necessary for the proper training of undergraduates and for suggesting for the consideration of the universities, improvements that may be needed in the training of graduates.

(3) The existing Central Advisory Board of Education should continue to function as a co-ordinating agency to consider All India problems concerning education, and State Advisory Boards should be constituted on similar lines in each State to advise the Department of Education on all matters pertaining to education.

(4) In order to evaluate the academic side of activities of a school there should be a panel of experts with the Inspector as Chairman who inspect the schools.

(5) Three persons should be chosen from Senior teachers or headmasters to visit the school in the company of the Inspector and to spend two or three days with the staff discussing with them and with the school authorities on aspects of school life and programmes.

(6) The open spaces available in the cities must be conserved to be utilized as play-ground by groups of schools and the State and the Central Governments should prevent, through legislation, encroachment on them for industrial or commercial purposes or by housing societies.

(7) The optimum number of boys to be admitted to any class should be 30 and the maximum should not in any case exceed 40; the optimum number in the whole school should be 500 while the maximum should not exceed 750.

(8) The schools constructed in future should provide facilities for the introduction of diversified courses.

(9) In the type design of the schools and the furniture etc. research should be carried to improve functional efficiency and to adjust them to Indian conditions.

As regards the responsibilities of Centre and States for education, the commission observed, "Under the constitution, the Secondary Education is the responsibility of the States. But the Centre is not absolved of all responsibility in regard to secondary education, particularly those aspects which have a bearing on the general economic development of the country for citizenship. Moreover, the fundamental rights guarantee to every citizen free and compulsory education upto the age of 14; this implies that responsibility in this behalf is shared both by the States as well as the Centre. It seems obvious, therefore, that in all matters connected with the improvement of secondary education there should

be fullest co-operation between the States and the Centre both in regard to the lines on which education should develop as well as the manner in which the recommendations should be implemented. In this respect we wish to draw attention to the analogy of the United States where, although education is the responsibility of individual states which can carry out their own experiments in education independently, there is an overall pattern of education for all American Youths, which has approval and support of the Federal Government. The Federal Government has found it necessary to guarantee through legislation substantial financial aid for educational development."

The Commission concluded their report with the remarks "At the outset one may express the doubt whether it would be possible to implement the recommendations made by the Commission in view of the present financial position of the country. Experience of the past, where similar recommendations have not received due considerations may be quoted in support of the pessimistic view. It will serve no useful purpose at this stage to ponder over the possible developments that might have resulted had the recommendations of previous commissions and committees so frequently reiterated since 1882, been implemented. But there is no doubt that India was in no worse position than several other countries in the eighties of the last century on the phenomenal developments and improvement that have taken place in those countries during the last sixty or seventy years must be an object lesson to this country to avoid, in future, lost opportunities and vacillating policies of the past. But whatever the reason for failure to implement such recommendations in the past, the country cannot afford after the attainment of independence to neglect or ignore the great and pressing problems of educational reconstruction or fail to take immediate steps to tackle them in a manner conducive to the promotion of the welfare of its citizens and safeguarding its future as a forceful and progressive, democratic republic in company of nations.

The dominating influence of university requirements on the one hand, and the undue emphasis attached to the needs of public services and the present methods of equipment on the other had an adverse effect not only on healthy development of Secondary Education but on the whole field of education in the country".

"In every field of national activity there is a great demand for a larger and a better trained personnel to meet its growing requirements. The world of to day is different from what it was 50 or 60 years ago. International competitions in all spheres of activity are becoming keener and keener. Industry, trade, commerce can best be promoted only if in

the field of technical education standards are maintained at all levels, which are comparable to standards in other progressive countries. In all other spheres of intellectual activity, whether in science, humanities, art or culture, rapid progress is being made and new discoveries are being ushered in quick succession. This calls for a general level of educational attainment which would make it possible for our people to absorb and utilize these discoveries and enable them to contribute their share to furtherance of such knowledge. The attainment of political independence involves and implies the attainment of intellectual independence in several fields and interdependence in fields, where fruitful cooperation is desirable and necessary for the furtherance of human welfare.

"We are of the opinion that a very high priority should be given to educational reforms both by the States and the Central Government and that they should make every effort to find the necessary funds to implement these recommendations, and adopt a planned and co-ordinated policy for this purpose."

"Education cannot be dealt with in water-tight compartments, nor can the responsibility for such education be assigned to different ministries of different departments without references to one another. It is imperative that the different ministries and departments, at the Centre or in the States should cooperate in educational planning and coordinate their activities so as to ensure efficiency and economy."

The Secondary Education Commission, thus, was a landmark in the history of Secondary education in India. They made many recommendations in the context of the contemporary situation. Unambiguity of presentation of some bold recommendations is the salient feature of the report of this commission. That these recommendations could not be implemented or given a fair and sincere trial is the irony of fate with which the previous and succeeding reports of various Commissions and committees have met. It has to be left to one's imagination only what the present scene and role of education would have been, if we would have given serious thought and consideration to the recommendations of this Commission. It may, however, be noted that the report of the Secondary Education Commission helped concretize the ideas advocated by its predecessors in as much as a few multi-purpose schools were developed in later fifties and sixties and the compromising idea of Higher Secondary schools was implemented by some states, especially Delhi Administration, though not in its real essence.

**Report of the
Education Commission 1964-66**

III REPORT OF THE EDUCATION COMMISSION 1964-66.

The Education Commission was appointed by the Government of India on 14th July, 1964, to advise the Government on the national pattern of education and on the general principles and policies for the development of education at all stages and in all respects. The Commission began this huge task on 2nd October 1964, Mahatma Gandhi's birthday. The commission consisted of seventeen members, out of whom six expert members were invited one each from University of London; Waseda University, Tokyo; Harvard University, U. S. A.; Moscow University, Inspector General of Education, Paris; and Assistant Director of the Department of School and Higher Education, Unesco, Paris. The Commission was headed by Dr. D. S. Kothari after whose name the Commission is popularly known as Kothari Education Commission.

This commission was unique in the sense that for the first time in the educational history of post-independence India an Education Commission of such a comprehensive nature and with such comprehensive terms of reference was appointed by the Union Government.

The Commission heavily toured round all the states and some union territories and visited universities, colleges and schools and held discussions with teachers, educationists, administrators and even students. They convened two conferences of University students' representatives to have the advantage of personal discussion with them about student welfare and discipline. They also interviewed men and women distinguished in public life, scientists, industrialists and scholars in different fields and others interested in education. The commission interviewed about 9,000 persons besides inviting written evidences, memoranda and replies to set questionnaires, organizing seminars and conferences, commissioning a number of special studies and also conducting a few special enquiries such as the socio-economic background of students admitted to educational institutions and working days in schools and colleges. The commission went through over 2400 memoranda and notes sent to them.

The laborious task performed by the commission was based on their conviction : " Indian education needs a drastic reconstruction, almost a revolution. We need to bring about major improvement in the effectiveness of primary education, to introduce work-experience as an integral element of general education; to vocationalize secondary education; to improve the quality of teachers at all levels and to provide

teachers in sufficient strength; to liquidate illiteracy; to strengthen centres of advanced study and strive to attain, in some of our universities at least, higher international standards, to lay special emphasis on the combination of teaching and research; and to pay particular attention to education and research in agriculture and allied sciences: All this calls for a determined and large-scale action. Tinkering with the existing situation and moving forward with faltering steps and lack of faith can make things worse than before."

After twenty one months' incessant deliberations through the highly democratic process of interpersonal communication, the Commission submitted their comprehensive voluminous report to the Union Minister for Education on June 29, 1966.

The Commission began their report with the sentence : "The destiny of India is now being shaped in her classrooms." - which has become a popular ephorism in the educational world in India since then. The Commission justified this statement by stating that 'in a world based on science and technology, it is education that determines the level of prosperity, welfare and security of the people. On the quality of number of persons coming out of our schools and colleges will depend our success in the great enterprise of national reconstruction the principal objective of which is to raise the standards of living of our people... If the pace of national development: is to be accelerated, there is need for a well-defined, bold and imaginative educational policy and for determined and vigorous action to vitalize, improve and expand education.'

The commission reported the magnitude, gravity and urgency of such a policy thus : "The population of India is now about 500 (at present about 600) million and half of it is below the age of 18 years. India today is a land of youth. Over the next 20 years (i.e. by 1985-86), the population is likely to increase by 230 million. The total number of educational institutions in the country is over 500,000 (in 1965-66). The number of teachers exceeds two million. The total student population, which is now about 70 million will be more than doubled in the next twenty years; and by 1985, it will become about 170 million or about equal to the total population of Europe. The size and complexity of these problems argue the need for rapid action in evolving an appropriate educational policy; given this, the numbers involved constitute a rich promise for education's contribution to national development."

The commission held the view that the education cannot be considered in isolation and planned in vacuum and that it has to be used as

a powerful instrument of social, economic and political change and will, therefore, have to be related to the long-term national aspirations, the programme of national development on which the country is engaged and the difficult short term problems it is called upon to face. The main problems highlighted by the commission are :

1. Self-sufficiency in food in context with the ever growing population.

2. Economic growth and full employment. "Allied to this," the commission stated, "is the colossal poverty of the masses and the large incidence of underemployment or unemployment among the people, particularly among the educated. India is one of the poorest countries of the world. The national income per capita, which was practically stationary for some decades rose from Rs. 255.5 in 1950-51 to Rs. 348.6 in 1964-65 an increase of 2.2 percent (at 1960-61 prices). Both the rate of growth as well as the level of national income are unsatisfactory. What is worse, even this income is very unevenly distributed." The commission suggested attack on three fronts in order to meet this challenge :

(a) to secure a rapid rate of economical growth, at not less than 6 percent per year,

(b) to distribute income more equitably so that the more deprived sections of the population could have a comparatively larger share in the total national income; and

(c) to control the growth of population so that the birth-rate is reduced at least by one third and preferably by half.

3. Social and National Integration

The commission remarked, "Indian society is hierarchical, stratified and deficient in vertical mobility. The social distance between these different classes, particularly between the rich and the poor, the educated and the uneducated, is large and is tending to widen... As education is not rooted in the traditions of the people, the educated persons tend to be alienated from their own culture. The growth of local, regional, linguistic and state loyalties tends to make the people forget 'India'. The old values, which held society together, are disappearing, and as there is no effective programme to replace them by a new sense of social responsibility, innumerable signs of social disorganisation are evident everywhere and are continually on the increase. These include strikes, increasing lawlessness and a disregard for public property, corruption in public life, and communal tensions and troubles. Student

unrest, on which so much is written, is only one and probably a minor one of these symptoms Against this background the task of creation of an integrated and egalitarian society is indeed extremely difficult and challenging "

4. Political Development

The need to strengthen democracy and to deepen its foundation by the creation of an educated electorate and a dedicated and competent leadership, and cultivation of essential values like selfcontrol, tolerance mutual goodwill and consideration for others,-all of these make democracy not only a form of Government, but a way of life The commission further observed in this respect "The defence of freedom is a national concern, to which every citizen contributes his best in order to achieve self-sufficiency in food and other essentials to strengthen the country's economy, and to create a secular, united and strong democratic state The masses have now awokened to a sense of their rights and are demanding education, equality, higher standards of living and better civic amenities This 'explosion of expectations' has to be met through a planned programme of national development Internationally the gap between the standards of living in India and those of industrialized nations, is very large The first scientific industrial revolution which developed in the west over the last 200 years almost passed us by. The agro-industrial revolution which is even more crucial for us has yet to begin in our country The world is now at the beginning of the second scientific industrial revolution of automation and cybernetics which is likely to be in full swing before the close of the century Unless proper steps are taken right from now the gap between us and the industrialized nations may become too wide to be bridged '

The commission summarized the presentation of these problems with the remarks In India attempts at national development, the welfare of one seventh of the world's population is at stake and the future of democracy and free societies is in the balance She is heir to an ancient and great civilization which can make a contribution to human progress by striving to create what Acharya Vinobaji has described as the 'Age of Science and Spirituality' She has to raise her self from her present standards of living which are amongst the lowest in the world and to take her rightful place in the comity of nations as soon as possible - a task to be accomplished within a generation at the most obviously, the solution of these problems makes large demands on us, the Indian people of this generation We need a clear focus, deeper understanding, collective discipline, hard and sustained

work, and dedicated leadership. The solution of these problems also needs the cooperation and assistance of the richer industrialized nations which share India's faith in democratic socialism and sympathize with her struggle to create a new social order".

Stating that these difficult, complex, significant, and urgent problems are all interdependent and that the shortest and the most effective way to their solution is obviously to make a simultaneous attack on all fronts, through two main programmes :

(1) the development of physical resources through the modernisation of agriculture and rapid industrialization on science-based technology, heavy capital formation and investment, and the provision of the essential infrastructure of transport, credit, marketing, and other institutions, and the development of human resources through a properly organized programme of education. The Commission affirmed their faith in education as the agent of change as under :

" If this change on a grand scale is to be achieved without violent revolution (and even for that it would be necessary) there is one instrument, and one instrument only, that can be used : EDUCATION. Other agencies may help, and can indeed sometimes have a more apparent impact. But the national system of education is the only instrument that can reach all the people. It is not, however, a magic wand to wave wishes into existence. It is a difficult instrument, whose effective use requires strength of will, dedicated work and sacrifice. But it is a sure and tried instrument, which has served other countries well in their struggle for development. It can, given the will and the skill, do so for India ".

" This emphasis on the social purpose of education, on the need to use it as a tool for the realization of national aspirations or for meeting national challenges, does not imply any underestimation of values for the individual. In a democracy, the individual is an end in himself and the primary purpose of education is to provide him with the widest opportunity to develop his potentialities to the full. But the path to this goal lies through social reorganization and emphasis on social perspectives. In fact, one of the important principles to be emphasised in the socialist pattern of society, which the nation desires to create, is that individual fulfilment will come, not through selfish and narrow loyalties to personal or group interests, but through the dedication of all to the wider loyalties of national development in all its parameters."

The Commission stressed the point that the direct link between education, national development and prosperity can exist only when the

national system of education is properly organized, both qualitatively and quantitatively, and the caution note that quantitatively, education can be organized to promote social justice or to retard it, and observed: "The present system of education designed to meet the needs of an imperial administration within the limitations set by a feudal and traditional society, will need radical changes if it is to meet the purposes of a modern democratic and socialist society—changes in objectives, in content, in teaching methods, in programmes, in the size and composition of the student body, in the selection and professional preparation of teachers, and in organization. In fact, what is needed is a revolution in education which in turn will set in motion the much desired social, economic and cultural revolution." The Commission presented three main aspects for identifying the major programmes that can bring about this educational revolution :

1. internal transformation so as to relate it to the life, needs and aspirations of the nation;
2. qualitative improvement so that the standards achieved are adequate to keep continually rising and at least in a few sectors, internationally comparable; and
3. expansion of educational facilities broadly on the basis of manpower needs and with an accent on equalization of educational opportunities.

In support of the statement that the existing system of education is largely unrelated to life and there is wide gulf between its content and purposes and the concerns of national development the Commission advanced the following charges :

1. "The educational system does not reflect the supreme importance of agriculture which is neglected at all stages and does not attract an adequate share of the top talent in the country; enrolment in the agricultural faculties of universities is extremely low; and agricultural colleges are comparatively weak and under-developed;
2. The main task before the nation is to secure rapid economic development. If this is to be successfully accomplished, education must be related to productivity. The present system is too academic to be of material help in increasing national wealth;
3. The schools and colleges are largely unconcerned with the great national effort at reconstruction and teachers and students generally remain uncommitted to it. They are often even unaware of its principles and very rarely have opportunities to participate in its programmes;

4. Instead of promoting social and national integration and making an active effort to promote national consciousness, several features of the educational system promote divisive tendencies; caste-loyalties are encouraged in a number of private educational institutions; the rich and the poor are segregated, the former attending a better type of private schools which charge fees while the latter are forced, by circumstances, to attend free government or local authority schools of poor quality; and

5. At a time when the need to cultivate a sense of moral and social responsibility in the rising generation is paramount, education does not emphasize character-formation and makes little or no effort to cultivate moral and spiritual values, particularly the interests, attitudes and values needed for a democratic and socialistic society."

Emphasizing the urgency of the transformation needed in our educational system, the Commission criticized the past measures for expansion of education in the postindependence India: "Traditional societies which desire to modernize themselves have to transform their educational system before trying to expand it, because the greater the expansion of the traditional system of education, the more difficult and costly it becomes to change its character. This truth has been lost sight of and, during recent years, we have greatly expanded a system which continues to have essentially the same features it had at its creation about a century ago."

Regarding the interrelationship between education and productivity the Commission observed: "The immense resources needed for the programme of mass-education, can be generated only if education is related to productivity so that an expansion of education leads to an increase in national income which, in turn, may provide the means for a larger investment in education. Education and productivity can thus constitute a 'rising spiral' whose different parts sustain and support one another. The link between education and productivity can be forged through the development of the following programmes:

1. making science a basic component and culture;
2. making work-experience an integral part of general education;
3. vocationalization of education, especially at the secondary school level, to meet the needs of industry, agriculture and trade; and
4. improvement of scientific and technological education and research at the university stage with special emphasis on agricultural and allied sciences."

Stressing the points that modern societies have developed and become affluent by the use of science-based technology which helps modernization of agriculture and the development of industries, and that, in recent years, several countries have been able to raise their GNP very rapidly because of their investment in basic science, technology and education, the Commission stated: "This close inter-locking and interdependence between science and technology is a characteristic of the contemporary world. We are in the crucial stage of the process of development and transformation; and in this context the role of science is of the utmost importance. Science education must become an integral part of school education; and ultimately some study of science should become a part of all courses in the humanities and social sciences at the university stage, even as the teaching of science can be enriched by the inclusion of some elements of the humanities and social sciences. The quality of science teaching has to be raised considerably so as to achieve its proper objectives and purposes, namely, to promote an ever deepening understanding of basic principles, to develop problem-solving and analytical skills and the ability to apply them to the problems of the material environment and social living and to promote the spirit of enquiry and experimentation. Only then can a scientific outlook become part of our way of life and culture..."

In the developments that we envisage in the future, we hope that the pursuit of mere material affluence and power would be subordinated to that of higher values and the fulfilment of the individual. This concept of the mingling of 'Science and spirituality' is of special significance for Indian education.

The Commission recommended work-experience as an integral part of all education general or vocational with a view to relating 'education' to life and productivity. They defined work-experience 'as participation in productive work in the school, in the home, in a workshop, on a farm, in a factory or in any other productive situation.'

The Commission charged that a cleavage between the world of work and the world of study is conspicuous in our system of education which tends to strengthen the tradition of denigrating work and alienates the students, particularly the first generation learners, from their homes and communities and claimed: "work experience is a method of integrating education with work." They further stated: "In the curricula of most contemporary school systems, particularly in the socialist countries of Europe, a place is found for what is variously called 'Manual work' or 'work experience'. In our country, a

revolutionary experiment was launched by Mahatma Gandhi in the field of basic education. The concept of work experience is essentially similar. It may be described as a redefinition of his educational thinking in terms of a society on the road to industrialization. In addition to being an effective educational tool, work-experience can in our view, serve some other important purposes. It can help to make the distinction between intellectual and manual work less marked as also the social stratification based on it. It can make the entry of youth into the world of work and employment easier by enabling them to adjust themselves to it. It could contribute to the increase of national productivity both by helping students to develop insight into productive process and the use of science, and by generating in them the habit of hard and responsible work. And it might help social and national integration by strengthening the links between the individual and the community and by creating bonds of understanding between the educated person and the masses."

The Commission recommended that in providing work experience the programmes should be linked realistically to technology, to industrialization and to the application of science to productive processes, including agriculture and that such a forward look in work experience is important for a country which has embarked on a programme of industrialization and that a well organized programme of work experience should also result in some earning for the student-either in cash or in kind.

The Commission put a great stress on giving a strong vocational bias to secondary education, with increased emphasis on agricultural and technological situation at the university stage and remarked : "This is of the special significance in the Indian situation where the educational system has been training young persons so far mostly for government services and the so called white collar professions...The proportion of students at the university stage enrolled in all the courses of professional courses is only 23 percent of the total enrolment. We visualize the future trend of school education is to be towards a fruitful mingling of general and vocational education-general education containing some elements of prevocational and technical education, and vocational education, in its turn, having an element of general education...For the planned development of national economy we need a large scale expansion of enrolment in engineering and agriculture, and at the post-graduate level, in pure science subjects. The increase has to be several times the present enrolment."

The Commission felt : "Social and national integration is crucial to the creation of a strong, united country, which is an essential pre-condition for all progress. It has a varied content-economic, social, cultural and political-and its different facets are closely interconnected. It needs :

1. Confidence in the nation's future,

2. a continuous rise in the standard of living for the masses and the reduction in unemployment and in the disparities in development between different parts of the country, all of which are essential to promote a sense of equality of opportunity in political, economic and social terms;

3. a deep sense of values and obligations of citizenship and a growing identification of the people, not with sectional loyalties but with the 'nation' as a whole;

4. assurance of good and impartial administration, equal treatment for every citizen, in fact and not merely in law, based on the integrity of the public services; and

5. mutual understanding of and respect for the culture, traditions and ways of life of different sections of the nation".

Indicating "the growing and dangerous symptoms of social disorganisation which express themselves as the widening gulf between the rich and the poor, the privileged and the unprivileged, the urban and the rural, the educated and the uneducated-the symptoms which weaken the feeling of national solidarity under the increasing impact of local, regional, linguistic, religious and other sectional or parochial loyalties, the Commission stated : "Social and national integration is a major problem which will have to be tackled on several fronts, including education. In our view education can and should play a very significant role in it by-

-introducing a common school system of public education;

-making social and national service an integral part of education at all stages;

-developing all modern Indian languages, and taking necessary steps to enrich Hindi as quickly as possible so that it is able to function effectively as the official language of the union; and

-promoting national consciousness."

For the first time in the educational history of India, a commission recommended a common school system on the thesis : "It is

the responsibility of the educational system to bring the different social classes and groups together and thus promote the emergence of an egalitarian and integrated society". They deplored : "Instead of doing so, education itself is tending to increase social segregation and to perpetuate and widen class distinctions. At the primary stage, the free schools to which the masses send their children are maintained by the Government and local authorities and are generally of poor quality. Some of the private schools are definitely better; but since many of them charge high fees, they are availed of only by the middle and the higher classes. At the secondary stage, a large proportion of the good schools are private, but many of them also charge high fees which are normally beyond the means of any but the top ten percent of the people, though some of the middle class parents make great sacrifices to send their children to them. There is, thus, segregation in education itself-the minority of private, fee-charging better schools meeting the needs of the upper classes and the vast bulk of 'free, publicly maintained, but poor schools being utilized by the rest. What is worse, this segregation is increasing and tending to widen the gulf between the classes and the masses. Good education, instead of being available to all children or at least to all the able children from every stratum of society, is available only to a small minority which is usually selected not on the basis of talent but on the basis of its capacity to pay fees. The identification and development of the total national pool of ability is greatly hampered. The children of the masses are compelled to receive sub-standard education and, as the programme of scholarships is not very large, sometimes even the ablest among them are unable to find access to such good schools as exist while the economically privileged parents are able to 'buy' good education for their children. The position is thus undemocratic and inconsistent with the ideal of egalitarian society"

With these remarks the Commission observed : " If these evils are to be eliminated and the educational system is to become a powerful instrument of national development in general, and social and national integration in particular, we must move towards the goal of a common school system of public education-

— Which will be open to all children, irrespective of caste, creed, community, religion, economic conditions and social status;

— Where access to good education will depend not on wealth or class but on talent;

— which will maintain adequate standards in all schools and provide at least a reasonable proportion of quality institutions;

- in which no tuition fee will be charged; and
- which would meet the needs of the average parent so that he would not ordinarily feel the need to send his children to expensive schools outside the system.

Such an educational system has, for instance, been built up in the USSR and in other nations like the USA, France and the Scandinavian countries. The so called public schools in England have come in for strong criticism in England itself. A somewhat similar system was transplanted in India by British Administrators and we have clung to it so long because it happened to be in tune with the traditional hierarchical structure of our society. Whatever its past history may be, such a system has no valid place in the new democratic and socialistic society we desire to create."

The Commission observed that the present educational system is also responsible for increasing the gulf between the educated and the uneducated classes, between the intelligentia and the masses; and that the intelligentia should try to become a real service group striving to uplift the masses and should resist the temptation to become a parasitical group living for itself and perpetuating its own privileged elitist position. The Commission therefore, recommended that some sort of social and national service should be made obligatory for all students and should form an integral part of education at all stages. Such programmes can become instrumental to building up character, improving discipline, inculcating a faith in the dignity of manual labour and developing a sense of social responsibility. As stated by the Commission there are two main forms in which such service can be organised :-

- encouraging and enabling the students to participate in community living on the school or college campus, and
- providing opportunities of participation in programmes of community development and national service.

Regarding the organization of the programmes of social and national service at different stages, the Commission recommended as under :

1. At the primary stage, it will take the form of bringing the school closer to the community with an accent on serving the community in suitable ways.
2. At the secondary stage, such programmes can be more ambitiously designed, and have a greater impact on young minds. Every secondary school should develop carefully planned programmes for

promoting good school community relations and suitable forms of service to the community. We recommend that about ten days a year (or a total of 30 days at the lower secondary stage and 20 days at the higher secondary stage) may be fully devoted to such programmes. Where this is not possible it should be obligatory for the students to participate in the labour service camps for secondary school students to be organized by the State Education Departments on a district basis.

3. Similarly, it should be obligatory for every college student before he is awarded his first degree to put in at least 60 days of national service in one to three stretches. Each college should develop its own programme, suited to its objectives, its resources and the age and competence of its students. Participation in labour and social welfare camps or the NCC should also be regarded as alternative forms of such service.'

As regards the promotion of national consciousness the Commission stated

India is a land of diversities of different castes, peoples, communities, languages, religions and cultures. What roles can the schools and universities play in enabling their students to discover the unity in diversity that India essentially is, and in fostering a sense of national solidarity transcending narrower loyalties?

'Under the British administration the schools were expected to teach loyalty to the British rule rather than instil love for the motherland. Consequently, the effort to develop national consciousness was made largely outside the educational system particularly during the struggle for freedom which developed between 1900 and 1947. Its foundation was renewed belief in the value of national culture and traditions and a pride in India's past achievements. With the attainment of independence the situation has changed greatly. The deepening of national consciousness can be fostered specially by two programmes (1) the understanding and re-evaluation of our cultural heritage and (2) the creation of a strong driving faith in the future towards which we aspire. The first would be promoted by well organised teaching of the languages and literatures, philosophy, religions and history of India and by introducing the students to Indian architecture, sculpture, painting, music, dance and drama. In addition it would be desirable to promote greater knowledge, understanding and appreciation of the different parts of India by including their study in the curricula, by the exchange of teachers wherever possible by the development of fraternal relations between educational institutions in different parts of the country, and by

the organisation of holiday camps and summer schools on an inter-state basis designed to break down regional or linguistic barriers. It would further be necessary to establish and maintain All India institutions which will admit students from different parts of the country. Faith in the future will involve an attempt, as a part of the course in citizenship, to bring home to the students the principles of the constitution, the great human values referred to in its preamble, the nature of democratic and socialistic society which we desire to create and the five year plans of national development. At the higher stages of education, the students should learn to assess the value of modern movements and tendencies so that they may learn which of them can and should be usefully assimilated into our culture. We should however, take care to avoid identifying all 'modern' with 'western' values."

About the education for international understanding the Commission recommended that our studies in humanities and social sciences should be so oriented that, while helping students to become good and active citizens of their own country, these will also enable them acquire knowledge and understanding of the essential features of the outside world, particularly of our neighbouring and Afro-asian countries. For this purpose, the fact that India is a country with many communities but of one common citizenship should actually prove to be an advantage...The programme of social and national integration which will minimize the internal barriers and suspicions which exist to-day will not be a national gain, but may even make an impact on international relations and the international situation as a whole. This was one of the great inspirations of Jawaharlal Nehru's policy.

The Commission recommended that special emphasis has to be laid on the development of values such as a scientific temper of mind, respect for the culture of other national groups, etc. which will enable us to adopt democracy, not only as a form of Government but also as a way of life. They remarked: "The population of India consists of persons who profess different religions, speak different languages, belong to different races, castes, classes and communities. It is precisely in such a situation that democracy can make its most significant contribution. A healthy development of democratic trends will help to soften the impact of this division into social, economic and cultural groups. the task is admittedly difficult, but it can convert the differences of language, cultural pattern, religions, etc. into the warp and woof of a very rich and rewarding social and cultural life. The problem of national integration is essentially one of harmonizing such differences, of enabling different elements of the population to live peacefully and cooperatively and to

utilize their varied gifts for the enrichment of the national life as a whole. We have to cultivate a spirit of large hearted tolerance, of mutual give and take, of the appreciation of ways in which people differ from one another. This is a very exacting experiment in living' that we have launched and no education will be worthwhile if the educated mind is unable to respond to this situation with intelligence and imagination."

The Commission conceived a broad view of education conducive to transformation and modernisation. They stated "The most distinctive feature of a modern society is in its adoption of a science based technology which has helped such societies to increase their production so spectacularly. Science based technology has other important implications for social and cultural life, and it involves fundamental social and cultural changes which are broadly described as modernization".

"There has been a great explosion of knowledge during the last few decades. One of the main tasks of education in a modern society is to keep pace with this advance in knowledge. In such a society knowledge is something to be actively discovered and critical and creative faculties are to be emphasized. This would require a new approach to objectives and methods of education, and changes in the training of teachers.

'Another feature of a modern society is the quick, almost breathtaking rate at which social change takes place. The school must always be alert if it is to keep abreast of significant changes. An educational system which does not continually renovate itself, becomes out of date and hampers progress because it tends to create a lag between its operative purposes and standards and the new imperatives of development, both in quality and quantity. The very aim of education has to be viewed differently to be taken as the awakening of curiosity, the development of proper interests, aptitudes, and values and the building up of such essential skills as independent study and the capacity to think and judge for oneself without which it is not possible to become a responsible member of a democratic society.'

"Once a society launches itself upon a programme of modernization, there is no turning back, no half way house where we can arrest the process. It has to move rapidly forward. The progress of modernization will therefore be directly related to the pace of educational advance and the one sure way to modernize quickly is to spread education, produce educated and skilled citizens and to train an adequate and competent intelligentsia. The Indian society of to day is heir to a great cultural inheritance, however, it is not an adequately educated society, and

the organisation of holiday camps and summer schools on an inter state basis designed to break down regional or linguistic barriers. It would further be necessary to establish and maintain All India institutions which will admit students from different parts of the country. Faith in the future will involve an attempt, as a part of the course in citizenship, to bring home to the students the principles of the constitution, the great human values referred to in its preamble, the nature of democratic and socialistic society which we desire to create and the five year plans of national development. At the higher stages of education, the students should learn to assess the value of modern movements and tendencies so that they may learn which of them can and should be usefully assimilated into our culture. We should however, take care to avoid identifying all 'modern' with 'western' values."

About the education for international understanding the Commission recommended that our studies in humanities and social sciences should be so oriented that, while helping students to become good and active citizens of their own country, these will also enable them acquire knowledge and understanding of the essential features of the outside world, particularly of our neighbouring and Afro-asian countries. For this purpose, the fact that India is a country with many communities but of one common citizenship should actually prove to be an advantage...The programme of social and national integration which will minimize the internal barriers and suspicions which exist to-day will not be a national gain, but may even make an impact on international relations and the international situation as a whole. This was one of the great inspirations of Jawaharlal Nehru's policy.

The Commission recommended that special emphasis has to be laid on the development of values such as a scientific temper of mind, respect for the culture of other national groups, etc. which will enable us to adopt democracy, not only as a form of Government but also as a way of life. They remarked: "The population of India consists of persons who profess different religions, speak different languages, belong to different races, castes, classes and communities. It is precisely in such a situation that democracy can make its most significant contribution. A healthy development of democratic trends will help to soften the impact of this division into social, economic and cultural groups. the task is admittedly difficult, but it can convert the discontents of language, cultural pattern, religions, etc. into the warp and woof of a very rich and rewarding social and cultural life. The problem of national integration is essentially one of harmonizing such differences, of enabling different elements of the population to live peacefully and cooperatively and to

the time table for this purpose They should be taken, not by specially recruited teachers, but by general teachers, preferably from different communities, considered suitable for the purpose It should be one of the important objectives of training institutions to prepare teachers for it

4 We also suggest that the University Department in comparative religion should be specially concerned with the ways in which these values can be taught wisely and effectively and should undertake preparation of special literature for use by students and teachers

5 A general study of the different religions of the world should be a part of the first degree courses and a graded syllabus should be prepared for the purpose.

6 At the school level conscious and organized attempts be made for imparting education in social, moral and spiritual values with the help, wherever possible, of the ethical teachings of great religions

The Commission stressed their belief that India should strive to bring science and the value of spirit together and in harmony and thereby pave the way for the eventual emergence of a society which would cater to the needs of the whole man and not only to a particular fragment of his personality

Speaking about the great challenge to be faced and faith to be instilled, the Commission stated India has emerged into freedom after a long period of foreign rule Politically the land is free but economically she has a long way to go The elimination of ignorance and of grinding poverty accumulated over centuries of inertia and exploitation is not an easy task India today has half of the total illiterate population of the world About fifty million of her people, one tenth of the total population live on an yearly income of not more than Rs 120 The problems are grave and immense but during recent years, great strides have been taken towards industrialization towards modernization of agriculture and to provide better health and life to the people The most powerful tool in the process of modernization is education based on science and technology The one great lesson of the present age of science is that with determination and the willingness to put in hard work, prosperity is within the reach of any nation which has a stable and progressive government There is no doubt that in the years to come, India's trade and commerce will grow, there will be more food for all more education better health and a reasonable standard of living will be available but India's contribution should be

unless it becomes one, it will not be able to modernize itself and to respond appropriately to the new challenges of national reconstruction or take its rightful place in the comity of nations. The composition of the intelligentsia must be changed. It should consist of able persons, both men and women, drawn from all strata of society. There must also be changes in the skills and fields of specialization to be cultivated. Greater emphasis must be placed on vocational subjects, science education and research. The average level of competence is not at all satisfactory, due mainly to inadequate standards, maintained in the universities. This is damaging to Indian academic life and its reputation. In order to change this situation radically, it will be necessary to establish a few 'major' universities in the country which attain standards comparable to the best in any part of the world, and which will gradually spread their influence to others. This is one of the basic reforms needed in our system of higher education."

The Commission wrote a caution note that modernization does not mean a refusal to recognise the importance of or to inculcate necessary moral and spiritual values and self-discipline. Modernization, if it is to be a living force, must derive its strength from the strength of the spirit. Modernization aims at creating an economy of plenty which will offer to every individual a larger way of life and a wider variety of choices. While this freedom to choose has its own advantages, it also means that the future of society will depend increasingly upon the type of choice each individual makes. This will naturally depend upon his motivation and sense of values, for he might make the choice either with reference entirely to his own personal satisfaction or in a spirit of service to the community and of furthering the common good. The expanding knowledge and the growing power which modernisation places at the disposal of society must, therefore, be combined with the strengthening and deepening of the sense of social responsibility and a keener appreciation of moral and spiritual values. The combination of knowledge with a lack of essential values may be dangerous. The Commission, therefore, made the following recommendations:

1 "The Central and State Government should adopt measures to introduce education in moral, social, and spiritual values in all institutions under their direct control on the lines recommended by the University Education Commission on religious and moral instruction.

2 The privately managed institutions should also be expected to follow suit.

3 Apart from education in such values being made an integral part of school programmes generally, some periods should be set apart in

Coming to the present need for rethinking about the structure of education, the Commission pointed out : "When the quantum of knowledge covered in the school was not very large, the pace of school work was leisurely, and when one learns 'more' outside school than within school, it was natural to suppose that the longer one stayed at school the better one gained in knowledge and maturity. Now, the knowledge explosion has imposed an altogether new pressure on schools and colleges. Formal education now plays a much greater part than it did previously at any time in history and the efficiency of the educational system has become a very important factor. 'Time saving' is becoming increasingly important as there is so much more to learn in a fast knowledge-expanding world. The compression of the school course would also help in the development of satisfactory working habits and powers of concentration and application... There is a general desire that the present somewhat confusing variety of patterns of school and higher education should be ended and there is a popular belief that the total period of the educational course and the duration of its different stages have a direct bearing on the quality of education imparted. We have been repeatedly told that if there is a uniformity in the educational pattern and an extension in the total period of schooling, it will be possible to bring about a general rise in the standards of attainment".

Regarding the follow-up measures on the Report of the Secondary Education Commission, the Commission observed, " a decision was taken to develop a national pattern of school classes covering eleven years—five years of lower primary, three years of upper primary and three years of higher secondary classes. This was to be followed by a three years course for the first degree in arts and science and a further two-year course for the second degree. There have been significant changes in the educational structure over the last ten years. But while three year degree course has been introduced except in the state of Uttar Pradesh and the University of Bombay, the same success has not attended the efforts to convert high schools into higher secondary schools. Inspite of the offer of central assistance, only five states have implemented the proposal so far. Only 25 per cent of the total number of Secondary schools in the country were converted to the higher secondary pattern by the end of third plan. Many of these conversions are purely notional in the sense that the necessary facilities in terms of teachers, libraries and laboratories have not yet been provided. Thus no uniform pattern of school and college classes

for more than these material gains. She should learn to harness science but she must also learn not to be dominated by science. A new pride and a deeper faith expressed in living for the noble ideals of peace and freedom, truth and compassion are now needed.

"Man's knowledge and mastery of outer space and of his own self are out of balance. It is this imbalance which mankind must seek to redress. Man now faces himself. He faces the choice of rolling down a nuclear abyss to ruin and annihilation or of raising himself to new heights of glory and fulfilment yet unimagined. India has made many glorious contributions to world culture, and perhaps the grandest of them all is the concept and ideal of non-violence and compassion sought, expanded and lived by Buddha, and Mahavira, Nanak and Kabir, and in our times by Vivekanand, Raman Maharshi and Gandhi, and millions have striven to follow them. The greatest contribution of Europe doubtlessly is the scientific revolution. If science and ahimsa (non-violence) join together in a creative synthesis of belief and action, mankind will attain to new level of purposefulness, prosperity and spiritual insight."

About the approach to the problems of structure and standards, the Commission stated that the standards in any given system of education at a given time depend upon four elements: (1) the structure or the division of the educational pyramid into different levels or stages and their interrelationships; (2) the duration or total period covered by the different stages; (3) the extent and the quality of essential inputs, such as teachers, curricula, methods of teaching and evaluation, equipment and buildings; and (4) the utilization of available facilities. All these elements are interrelated, ...but the utilization of available facilities is probably the most significant of all the elements on which standards depend. For any self-accelerating process of development it is essential in the first place to improve efficiency at the level of the existing inputs and to add more inputs only if they are crucial to the process.

As regards the pattern of education the Commission observed: "The broad pattern of education in our country, which was imported from abroad is still in the nature of exotic plant. There is hesitation and reluctance, and sometimes even fear, about making any radical changes unless these are on the model of what is happening abroad. We have to outgrow this attitude and to begin regarding the educational patterns as our own; and we should introduce changes in it on the basis of our own indigenous thinking after taking into account what is happening outside but without being dominated by it."

The Commission had come across some witnesses who were of the view that the higher secondary pattern has not been given a fair trial, that frequent changes of policy with regard to the educational structure were undesirable, and that, instead of experimenting further with new patterns, it would be better to implement the higher secondary scheme itself more effectively all over the country. Majority of the witnesses were critical of the scheme for the following reasons:

1. Specialization which should not be introduced till after class X or the age of 15, begins too early in the pattern. (at the age of 13 or 14)
2. The three integrated courses of the higher secondary classes lead to a good deal of unnecessary expansion and increase in expenditure, as a child who might otherwise have stepped off into the world of work or a vocational course at the end of Class V, is now forced to go up to class XI.
3. The expectations that standards would improve as a result of the reorganization have not been generally realized. Qualified teachers are unwilling to work in higher secondary classes because of lower salaries, and even where salaries are equal, because of lower status. Moreover, for reasons other than educational, a number of high schools have been upgraded to the higher secondary pattern without any appreciable improvement in their accommodation and equipment or in the qualifications of their staff.
4. The experiment which is costly in itself has led in certain areas to an increase in expenditure in other directions. For instance, it was found almost impossible in practice to downgrade an intermediate college to a higher secondary school, so that every intermediate college had to be raised to the costlier degree level. Similarly, the decision to convert, over a period of time, all high schools to the higher Secondary pattern, created undesirable pressures. Even small rural high schools, which under the previous system would have been more efficient and economical as ten class institutions, were upgraded to the higher secondary status and became both costly and less efficient.

The Commission quoted the statement of the Emotional Integration Committee Report : "We consider that in the overall interest of our student population there should be a common pattern of education in the country which will minimize confusion and coordinate and maintain

has emerged as a result of the reorganisation and there is almost as great a variety of patterns to-day" as under :-

Duration of Stages in years

State	Lower Primary	Higher Primary	Secondary	puc	Higher secondary	First Degree	Total
Andhra Pradesh	5	3	3	1	4	3	15
Assam & Nagaland	5	3	4	1	5	3	16
Bihar	-7-	"	4	1	—	3	15
Gujarat	-7-	"	4	1	—	3	15
Maharashtra	-7-	"	4	—	—	2+2	15
Jammu & Kashmir	5	3	2	1	3	3	14
Punjab							
Rajasthan & West Bengal							
Kerala	4	3	3	2	—	3	15
Madhya Pradesh	5	3	—	—	3	3	14
Madras	5	3	3	1	—	3	15
Mysore	4	3	3	1	4	3	14
Orissa	5	2	4	1	—	3	15
Uttar Pradesh	5	3	2	—	—	2+2	14

- N.B. 1 In the university of Bombay there is a 2 year intermediate course followed by a two year course.
2. In U.P., there are intermediate colleges offering 2 years course followed by 2 years degree course.
3. In totalling up the duration, please include (i) Secondary and Puc or (ii) Higher Secondary, but not both.
4. Among the union Territories, Delhi, Andaman and Nicobar Islands and Laccadive, Minicoy and Amindivi Islands have adopted the higher Secondary pattern. The other union territories usually follow the patterns of the State with whose secondary Board or universities they coordinate their educational programmes (e.g. Himachal pradesh follows the punjab.)
5. The original table has been simplified,

— a lower secondary or high school stage of three years or two years in general education or of one to three years in vocational education,

— a higher secondary stage of two years of general education or one to three years of vocational education,

— a higher education stage having a course of three years or more for the first degree, followed by courses of varying durations for the second or research degrees.

"When the present higher secondary pattern is abandoned most of the secondary schools about three fourths would provide education upto class X and may begin at any convenient point to lower down and the remaining one fourth will be higher secondary schools providing education upto university entrance. The existing position is quite different from this and shows considerable variations in the structure of school system until the public examination at the end of the lower secondary stage is reached. Assam and Nagaland have examinations after twelve years (though the first two classes are called A and B and it is the next ten classes that are numbered consecutively as Classes I to X), six states (Andhra Pradesh, Bihar, Gujarat, Madras, Maharashtra and Orissa) have it after eleven years, and the remaining eight states (Jammu and Kashmir, Kerala, Madhya Pradesh, Mysore, the Punjab, Rajasthan, Uttar Pradesh and West Bengal) have it after ten years. No systematic study has yet been made for comparing the standards of attainment of the candidates at the examinations held in the different regions. But these are broadly comparable and, for administrative purposes all these examinations are regarded equivalent.'

In the six states which have an eleven years school course the Commission suggested that it would be more appropriate to regard class I as a pre primary class particularly where the age of admission is less than six years and that this pre primary class would be an advantage. The Commission stated 'We recommend that they (six states) should try to retain it as such, organize the learning experiences therein on the playway pattern rather than on the formal pattern, and extend it downwards, wherever possible to cover a period of two years. We also suggest that the other eight states may try to provide pre-primary education of one year or more below class I to the extent possible subject to the availability of financial resources.'

As the Commission visualized

I the first ten years of schooling covering a primary stage of seven or eight years and a lower secondary stage of three to two years will provide a course of general education without any specialization.

standards." and stated that this view is gainig considerable ground in recent years and that the concept of national system of education had been increasingly linked with the adoption of a uniform 'educational pattern which is essential for raising standards.

To this the Commission reacted : "We do not believe that it is necessary or desirable to impose a uniform pattern of school and college classes in all parts of the country. There are several characteristic features of the Indian situation, such as the 'vastness' of the country and the immense diversity of local conditions and 'traditions, that demand a certain element of flexibility in the educational structure. In our country, where the different states are at unequal levels of development, a uniform pattern might be above resources and the real needs of the backward areas and below the capacity and requirements of the advanced areas and might operate to the disadvantage of both."

The Commission recorded their full agreement with the popular demand for lengthening the duration of schooling on the ground that the view that university education should be preceded by twelve years schooling was the correct view held by the Calcutta University Commission (1919), the University Education Commission (1948), The committee on Emotional Integration and the Conference of State Education Ministers (1964) which resolved : 'a twelve year course of schooling before admission to the degree course was the goal towards which the country must work.' The Commission recommended that the reorganisation should be carried out through a phased programme spread over at least twenty years. They stated . "The first step in the direction would be the abandonment of the present higher secondary pattern in which specialization begins in class IX, and the institution of a new higher secondary course beginning in Class XI. Along with this measure, which should be completed by the end of the fourth plan period, a systematic attempt should be made to transfer the pre-university course at present located in universities and affiliated colleges, where it tends to depress standards of higher education, to secondary schools, where it rightly belongs. The next step would be to lengthen the total duration by adding a year to the higher secondary course. We visualize educational structure covering-

- pre-school stage of one to three years;

- a primary stage of seven or eight years divided into two sub-stages-a lower primary stage of four or five years and a higher primary stage of three years;

feature of the educational system, secondary schools of two types; high schools providing the ten year course described above, and higher secondary schools which in due course will offer a twelve year course of education. With a view to concentrating resources and raising standards effectively, it is only bigger and better type of high schools that should be upgraded. If one fourth of the total number of high schools were raised to the higher secondary status, they would meet all the needs of the situation even on the assumption that there would be no pre-university courses in the colleges in the future. An essential requirement is that the institutions should be large, centrally located and equitably distributed between the urban and the rural areas. It would also be desirable to review the status of all existing higher secondary schools, and where these are too small and uneconomic or of very poor quality they may be reconverted into high schools.

3. There should be, as a rule, no integrated course of studies beginning with Class IX. Classes IX and X will now form part of the first ten years of general education and Classes XI and XII (and during the transitional period, Class XI only) which will provide for specialized studies in different subjects at the higher secondary stage, will become an independent, self-contained unit like the Sixth Form in England.

4. There will be an external examination at the end of Class X to mark the termination of the first ten years of general education. Therefore, a student studying in a ten year high school will have to appear for two external examinations-at the end of class X and XI-at the interval of one year. This handicap will be removed with the extension of the higher secondary course to two years.

5. Existing higher secondary schools with a well organised integrated course in Classes IX to XI may be permitted to carry on, if they so desire, with such course until they add Class XII. It will not be obligatory for the students of such schools to appear for an examination at the end of class X. They may take one final examination at the end of Class XI or take it in two parts at the end of classes X and XI.

In discussing the proposed reorganisation of the educational structure, the Commission pointed out that two main reforms were needed, at this stage :

1. the transfer of the pre-university courses from the universities and the colleges to the schools; and
2. the lengthening of the duration of the courses of general education uniformly to two years.

2. the primary stage will be preceded, wherever possible, by pre-primary education of one to three years;
3. the age of admission to class I will ordinarily be not less than 6+;
4. at the end of the primary stage, a proportion of students will step off the school system and enter working life (about 20 percent); some more will step off the stream of general education into different vocational courses whose duration may range from one to three years (about 20 percent); and the remaining will continue further in the stream of general education (about 60 percent);
5. the ten years school education will be followed up by an external examination;
6. the standard at the end of the ten years will be broadly comparable in respect of curriculum and level of attainment to the national standard laid down for the end of this stage;
7. at the end of the ten years of school education, a proportion of students will step off the School system and enter working life (about 40 percent); some more will step off the scheme of general education and enter vocational courses whose duration will be one to three years (about 30 percent); and the remaining will continue further in the stream of general education whose duration will be one, and ultimately two years. (about 30 percent)

The Commission stated, "We attach great significance to changes that have to be made in the existing higher secondary pattern in the light of the proposal for reorganisation made above" and put further suggestions as under :

1. The system of 'streaming' in schools of general education, which now begins in Class IX, should be given up and no attempt at specialization should be made till after Class X. This will need a considerable reorganisation of the existing curricula of the higher secondary schools.
2. The idea that every secondary school should be raised to the higher secondary status should also be abandoned. It has been possible to upgrade all the high schools in Delhi because it is a metropolitan area. Such wholesale conversion of schools has also been carried out in Madhya Pradesh; but the cost has been very heavy in terms of deterioration of standards as well as of financial outlays. In a country where rural areas predominate it is unwise to try to raise every high school to the higher secondary status. We visualize, as a permanent

reduce gradually their allotment of funds earmarked for this stage of education and to stop them completely by the end of the Fifth Plan.

2 While these steps are being taken, arrangements should be made to start the higher secondary class or classes in selected schools. The responsibility of making these arrangements should be placed on the State Education Departments, which should work out a proper programme for the purpose in consultation with the universities in the State. Good high schools should be selected and given adequate grant in aid to start a higher secondary class or classes as a self-contained unit which is not to be integrated with the lower classes, so that students from other high schools may join it. A scheme of this type has been tried in Mysore and found to work well. Recurring grant for this purpose should be made available to each selected institution one year in advance so that the preliminary arrangements can be satisfactorily completed in time.

3 Most of the Boards of Secondary Education will have to be reconstituted to accept the responsibility for the higher secondary stage and in some case their Acts will have to be amended.

According to the Commission this programme of transfer will not involve any hardship. The universities and the affiliated colleges from which the pre-university courses will disappear will be able to use the existing facilities so released for the purpose of expanded admissions in undergraduate classes. For creating the new facilities required at the school stage, however, a much large investment of resources is needed. The non-recurring expenditure will be much greater because most of the secondary schools are in a very bad shape. At present Fveo with regard to recurring expenditure, there will be an overall increase, because the income from the fees may show a fall after a transfer of these classes to schools. But the advantage of this additional investment will be spread, to some extent over a very large proportion of the student population of the secondary stage and the benefit to the society in terms of a better output from a secondary education will be much greater. There should therefore be no hesitation in incurring the somewhat larger expenditure involved in the execution of this programme.

If regarding the lengthening of duration of higher secondary stage the Commission observed Our second purpose in this regard is that, in all States except Uttar Pradesh and Kerala the duration of the higher secondary course should be lengthened to two years through a phased programme spread over twenty years and divided into two stages. The

For carrying out these reforms, the Commission suggested two successive stages: In the first stage, the pre-university, intermediate or junior college course should be transferred from higher education to school education in a period of ten years (1966-75); in the second, their duration should be lengthened in a fifteen year period beginning with the fifth plan (1981-85). The Commission observed: "We attach great significance to the location, exclusively in schools, of all the courses that form part of the higher secondary education. When the higher secondary pattern was first recommended, the pre-university course was introduced only as a transitional measure. Unfortunately the transition threatens to become permanent, and even to-day about 40 percent of the total enrolment in the universities and affiliated colleges is in the intermediate or pre-university courses. This is a great evil from all points of view. It is bad for the universities and colleges as their resources and energies are being improperly utilised and even wasted in doing what is essentially the work of secondary schools. It is bad for the secondary schools because they are weakened by being deprived of a stage which could give them good teachers and facilities, with the result that they are obliged to do a good deal of work which ought to have been done at the primary stages. It is bad for the students because they are now required to enter universities at too early an age, and compelled to learn through methods of higher education which are beyond their capacity and more suited to maturer students. We, therefore, strongly recommend that the pre-university course, irrespective of its duration, should first be transferred to the schools on a high priority basis--this transfer to be completed by the end of the fifth five year plan at the latest. ...The following measures may be adopted to bring about this transfer::

1. The responsibility of transferring all pre-university or intermediate work from the universities and affiliated colleges should be placed on the University Grants Commission, which should be asked to prepare a phased programme to be spread over not more than ten years for the purpose. A beginning should be made with the universities and the post-graduate colleges which should be required to shed this work as soon as practicable. This policy should then be extended to degree colleges, where the enrolments at this stage should be frozen at the certain time, after which the colleges would be required to taper them off as their enrolments at the undergraduate stage, begin to grow. Beyond the Fourth Plan, opening of new pre-university or intermediate classes in the universities and affiliated colleges should not be permitted. The University Grants Commission and the State Govt. should be requested to

1. The above proposal will need to be modified in Uttar Pradesh, where the immediate problem is to raise the duration of the first degree course in arts, commerce & science from two to three years. Since large financial and personnel problems are involved, we suggest that this programme should be spread over 15 to 20 years. A beginning may be made with the establishment of graduate schools and introducing three year courses to be introduced in the selected subjects and universities, and as funds and teachers become available the programme should be extended to affiliated post graduate colleges doing good work and to other subjects.

5. Suitable 'bridges' should be built between these new and longer courses and the existing courses of shorter duration

6. Some incentives will have to be provided to students for undergoing these longer and higher level courses. For instance, a more liberal provision of scholarships should be made for these longer courses for the first and the second degrees. Students completing the courses should be entitled to advance increments in the usual scales. They should receive preferential consideration in recruitment, and as the supply becomes adequate, the recruitment of teachers should be restricted to the holders of these degrees only. It need hardly be stressed that the admission to these courses should be made on highly selective basis.

The Commission emphasized the importance of professional education at the university stage and remarked, 'This is of particular urgency in the Indian context where the emphasis in higher education in the past has been on training persons mainly for white collared jobs.'

The Commission further observed, "It is necessary to place much greater emphasis in all our plans of educational reconstruction on programmes of intensive utilization of facilities available, and on improving the extent and quality of the inputs other than time, and particularly on the improvement of teachers. These will yield immediate and far reaching results. It will be generally agreed that the facilities in our educational system, deficient as they are, are not utilized to their full advantage. There is much that can be done to improve the standard even in existing circumstances, by lengthening the school day, increasing the number of working days, making full use of the long vacations, and generally creating a climate of hard and sustained work. The key to rapid national development is dedication and hard work. Educational institutions should give a lead to society.

most important is that the duration of the course, for the first degree in arts, science and commerce has been lengthened to three years in all the universities except those in Uttar Pradesh and the University of Bombay, which still provide the two year, degree course after the intermediate examination. One or two universities have experimented with an honours course in certain subjects, covering a period of four years in the aggregate. Again, the degree courses in professional subjects are generally longer than the courses for the degrees in the Arts and Science. The Agricultural and the Engineering courses extend to four and five years respectively after the pre-university course and the Medical course has an even longer duration."

"The principal criticism of higher education is directed not too much against the pattern of organisation as against the comparatively low standards of the degree awarded by the Indian universities in arts, commerce and science."

Regarding the structural reorganisation of university education, the Commission made the proposals as under:-'

1. The duration of the first degree course should not be less than three years. Apart from this, there should be no rigidity about the duration of courses in higher education. These may vary from university to university and even in the same university from subject to subject. The duration of the courses for the second degree may be two or three years.

2. In some Universities strong 'graduate schools' providing a three year M. A./M. Sc./M. Com. degree course may be established in certain subjects. For the sake of convenience, these courses may be designated as honours courses or they may be given some suitable name. If they are properly organized and a careful selection of students is made, they will be able to produce excellent personnel for the teaching faculty and for high grade research.

3. A beginning should also be made with the organisation of four year courses for the first degree in selected subjects. The first year of these courses will be the same as the first year of the present three year degree course. But students will be selected at the end of that year, for admission to a further three-year special course leading to the first (special) degree in the subject. The experiment should be tried, in the first instance, in the university departments only and in subjects where teachers and facilities are available. In the light of experience gained, it may be extended subsequently to other subjects and to good affiliated colleges doing post-graduate work.

- studies for the ensuing year, including general studies, with the help of school and college libraries and laboratories,
- hikes excursions, tours, cultivation of hobbies, and
- participation in nation building programmes such as literary drives

"For these programmes, it will be essential to secure the assistance of a certain proportion of teachers This could be done by the appointment of additional staff, by the payment of honorarium at prescribed rate to the existing staff or by granting them compensatory leave in lieu of the vacation cost "

Besides recommending increase in the number of the instructional days, the Commission recommended increase in the duration of the working day and stated

'At school stage, the working hours per day should vary from four hours at the preprimary stage to about six hours at the higher secondary stage This total period does not include the time for co curricula activities, but includes the time when the pupils would be working on their own (e.g. the library period) or on guided studies In the academic year, the hours of instruction at lower primary stage should be about 900, and at the higher primary and secondary stages they should be not less than 1000 and preferably raised to 1100 or even 1200 if conditions are favourable At the university stage, the hours of work are already long enough for professional courses It is only the students in the courses of humanities who do not seem to work hard enough The more serious weakness of the situation, however, is the lack of adequate facilities for students to study on their own We believe that the 'contact' hours at this stage should be 15 to 20 a week, but that they should involve the student in working on his own for at least twice as much, so that his total work load per week is about 50 to 60 hours As one goes higher up, the contact hours could be less and self study period even longer The most urgent reform needed therefore, is not to lengthen the working day in terms of the lectures delivered these need to be cut down- but to increase the self study facilities for students and to ensure that they work adequately"

Recommending adequate utilization of institutional facilities, the Commission stated that vacation programmes should be arranged to utilize institutional facilities for community service, adult education, temporary hostels for day students, enrichment programmes for gifted students and supporting programmes for retarded students The Commission confidently observed, If an understanding is developed that educational

in this matter and create the required climate, in the first instance, in the educational system itself."

"At present, the total number of days and hours prescribed for educational institutions at all levels is inadequate. What is far worse, a very large proportion of these working days is lost to education for a variety of reasons with the result that the total number of instructional days, i.e. days which are fully utilized for instructional purposes is often reduced to an absurdly low figure...There is considerable variation from area to area, in the total number of working days in a year-these range from 172 to 309 at the school stage and from 120 to 240 at the university stage. The number of holidays given within a school year shows even large variations from 20 to 75 at the school stage and from 4 to 49 at the university stage. Similarly the total duration of vacations varies from 36 to 84 days at the school stage and from 62 to 137 at the university stage. The days utilized for examinations (inclusive of preparatory leave) vary from 10 to 77 and the loss on account of celebrations such as foundation days, annual functions of societies, etc. is sometimes as high as 40 to 60 days in a year. These facts are a sad reflection on the efficiency of the educational system; and the general under-utilization which they represent in a developing economy like ours is tantamount to an unpardonable waste of scarce resources. We, therefore, recommend that the number of instructional days in a year should be increased to about 234 (or 39 weeks) for schools and 216 (or 36 weeks) for colleges (and pre-primary schools)."

The Commission opined that it is desirable to begin the academic year on the same day throughout India and that it would be possible to do this if the opening of the school year were placed in November.

The Commission, thus, recommended more teaching and learning efforts in a school year and also recommended fruitful utilization of vacations: "...steps should be taken to ensure that adequate use is made of vacations which are very often wasted. Even in advanced countries, where vacations are already being utilized much better than here, there is a growing feeling that they could be used even more intensively. A country like ours cannot afford to waste vacation time. We would, therefore, prefer to call this period a 'vacation term' rather than a 'vacation' and recommend that all steps should be taken to utilize it fully. It is quite possible to organize interesting and challenging programmes for students such as-

- participation in social service Camps, NCC and work-experience;
- earning for maintenance;

In view of this situation, the Commission recommended that an intensive effort should be made through measures for reorganisation of the structure, increase of duration, intensive utilization and improvement of the quality and extent of inputs, other than time, to raise standards continually at all stages of education. The immediate programmes to be undertaken from this point of view should be the following :

1. The standards reached at the end of the first ten years of school education at present are far from satisfactory. We, therefore, recommend that for the next ten years the principal effort in all the states and Union territories should be directed towards the qualitative improvement of this stage of school education so that its wastage—which reaches appalling dimension at present—is reduced to the minimum. With a substantial reduction in wastage and with better inputs in terms of teachers, curricula, methods of teaching and evaluation, and facilities, we believe that it is possible to raise within a decade the existing standard at the end of Class X, to the standard now being attained on the completion of the higher secondary course. In other words, the schools will add, not one year of time, but one year of content, and achieve in period of ten years what is now being done in eleven.

2. Beyond Class X, we have proposed the addition of at least one year of time.

If we intensify utilization and improve other inputs, it may be possible to add a year of content to this stage also. The total gain would thus be equal to two years of content and this would raise the standards of our degrees considerably. When the standard at the end of the first stage of school education is raised by one year of content, the standards of our degrees will rise even higher."

The Commission laid stress on proper articulation between the different stages of education and suggested, "still another way in which standards can be raised is by securing better co-ordination between the different stages of education and by making the educational institutions function in small groups instead of in isolation. At present, there is little practical co-ordination between educational institutions functioning at different levels of education. This can be achieved by making each higher stage of education take the responsibility for improving standards at the lower stages. The Universities and colleges should assist the secondary schools in improving their efficiency and the secondary schools should assist the primary schools for the same purpose." The Commission, thus,

institutions are like temples of learning and should never remain closed, and if a proper climate for sustained work is created, teachers, students and the local communities will themselves discover innumerable methods of utilizing school facilities to the maximum potential throughout the year."

Taking note of the criticism regarding the falling standard of education, the Commission suggested criteria for evaluating standards as under:

"In our opinion, the basic issue in educational reconstruction is not to compare standards of today with those of the past and to determine whether they are rising or falling. On the other hand, we should judge them on the basis of three interrelated criteria: adequacy, dynamism, and international comparability. Standards must be

-adequate in relation to the tasks for which they are intended;

-dynamic and keeping on rising with the demands for the higher levels of knowledge, skills or character which a modernizing society makes; and

-internationally comparable, at least in those key sectors where such comparison is important.

"Judged on the basis of these criteria, the existing situation appears to be far from satisfactory. Our universities do a good deal of work which really belongs to the secondary school and the latter in its turn does a good deal of work of the primary school. Even where the standards have risen, the rise has not been adequate and better results would have been possible if the existing facilities had been intensively utilized. The main purpose of the first degree should be to bring students to the frontiers of knowledge and to the threshold of the world of research; and that of the second degree to provide a high level of specialization or to initiate the student in research itself. Our first and second degrees in arts, commerce and science do not generally come up to these standards. Moreover, our degrees should be internationally comparable in the sense that those given by our best centres should be as good as those of similar institutions in any part of the world. But by and large, it is our second degree in arts, commerce and science that introduces the student to the world of research and is comparable to the first degree in the educationally advanced countries... Advanced countries have made phenomenal progress in education, especially since the Second World War. The gap between our standards and theirs has widened further; and the holders of the first degree of our universities in arts and science are now generally equated with matriculates in the important universities of western countries and are eligible for admission only to the first year of their first degree course."

full time education, and the two alternative channels of part time and own time education should be developed on a larger scale at every stage and in every sector of education and should be given the same status as full time education Secondary, adult and continuing education which is almost totally neglected at present should be emphasized to a very great extent Taken together, these two reforms would—

- enable those who have not completed a stage of education to complete it and, if they wish to proceed to the next,

- help every educated person to have further education with or without formally enrolling himself in an educational institution,

- enable a worker to acquire knowledge ability, and vocational skill in order to be a better worker and to improve his chances of earning more, and

- help to refresh the knowledge of the educated person and enable him to keep pace with the new knowledge in the field of his interest

Programmes of this type which are being developed even in educationally advanced and affluent countries, cannot be ignored in an underdeveloped and poor country like India They will smoothen the transition from school to life reduce the cost of education to the state, and bring under the influence of the educational system a large number of persons who desire to educate themselves but cannot do so on economic grounds '

The Commission charged teacher education with isolation of three types

- isolation from university life The professional education of primary teachers is not looked upon as a concern of the universities The professional education of secondary teachers is with the universities no doubt but it has become separated from other intellectual disciplines in the university and is treated almost as a Cinderella in university life

- isolation from schools Teachers education both at the primary and secondary levels, has become isolated from schools and current developments in school education

- isolation from one another The different types of teachers training institutions are isolated from one another and do not form an integrated community

Such isolation must be broken by bringing education into the main stream of the academic life of the universities In the educationally

recommended the evolution of functional school complexes which have several advantages to promote educational advance. " It will break the terrible isolation under which each school functions at present. It will enable a small group of schools working in a neighbourhood to make a co-operative effort to improve standards. It will enable the Education Department to devolve authority with comparatively less fear of its being misused and provide the necessary stock of talent at the functional lavel to make use of this freedom".

The Commission indicated three channels of education with a view to providing opportunities to learn to those who cannot attend full-time formal schools and stated : "One of the major weaknesses of the existing educational system is that it places an almost exclusive reliance on full time instruction and does not develop adequately the two alternative channels of part-time education and private study or own-time education. It has to be remembered that reliance on full time education as the sole channel of instruction often divides the life of an individual into three water-tight and sharply divided stages : a pre-school stage of no formal education or work, a school stage of full time education and no work, and a post-school stage of full time work and no education. In a modernizing and rapidly changing society, education should be regarded, not as a terminal but as a life-long process. It should begin informally in the home itself; and thereafter, it should be the ultimte objective of the national policy to strive to bring every individual under the influence of the formal system of education as early as possible, and to keep him under it, directly or indirectly, throughout his life. Similarly there should be no watertight separation between work and education at any stage of a man's life, but only a relative shift of emphasis. An individual under full time education should have some work experience as an integral part of his education itself; and every full time worker should have the inclination, leisure and means of continuing of his education still further. In the same way, the transition from one stage to another should not be abrupt. For example, the transfer of an individual from the infant's play-dominated world to formal school should include a transitional phase of gentle preparation and orientation to schooling. A young person should not be cumpelled to pass abruptly from a stage of full time education to another full time work; it would be desirable to interpose a period of part time education and part time work between the two. If these objectives are to be attained, it is necessary to abandon the present policy of placing an almost exclusive reliance on

- to provide effective general education of less than seven years' duration to every child, on a free and compulsory basis, and to expand lower secondary education on as large a scale as possible;
- to provide higher secondary and university education to those who are willing and qualified to receive such education, consistent with the demands for trained manpower and need to maintain essential standards; and to provide adequate financial assistance to those who are economically handicapped;
- to emphasize the development of professional, technical and vocational education and to prepare skilled personnel needed for the development of agriculture and industry;
- to identify talent and to help it grow to its full potential;
- to liquidate mass illiteracy and to provide an adequate programme of adult and continuing education; and,
- to strive continuously to equalise educational opportunities, beginning with the elimination of at least some of the more glaring inequalities.

"In the next two decades the highest priority must be given to programmes aimed at raising the educational level of the average citizen. Such programmes are essential on grounds of social justice, for making democracy viable and for improvement of the productivity of the average worker in agriculture and industry. The most crucial of these programmes is to provide, as directed by the article 45 of the Constitution, free and compulsory education of good quality to all children upto the age of 14 years.

"Several complex problems relating to the amount, type and quality of education to be provided arise in respect of secondary and higher education. It is not easy to determine the size of the total enrolments in the absence of clear and precise targets about overall expansion rates. Moreover, as education at these stages has to be diversified into a large number of courses to meet varied individual aptitudes as well as social requirements for trained manpower, it becomes even more difficult to decide the precise extent of provisions for each course. Unfortunately, an understanding of these problems is still limited. Enrolment policy must, therefore, be based on a pragmatic combination of four different criteria: the public demand for such education, the full development of the natural pool of ability; the capacity of the society to provide the educational facilities needed at given levels of quality; and manpower needs for national development. During recent years, the demand for secondary and higher education has increased enormously due to several

advanced countries, education has developed as a social science and a separate academic discipline.

—requiring every training institution to guide neighbourhood schools and their staff through extension service programme.

—making student-teaching comprehensive internship in which trainees are able to observe the entire work of the school and to participate in all important professional activities of teachers.

—the establishment of comprehensive colleges to prepare teachers for several stages of education,

—setting State Boards of Teacher Education for bridging different stages.

" The Commission also recommended large scale and coordinated programmes of inservice education with the target that every teacher receives at least two or three months' in-service education in every five years of his service.

For standards of teachers-education, the Commission recommended that at the national level, the UGC should take the responsibility for the maintenance of standards in teacher education. The State Boards of teacher education should be responsible for raising the standards at the State level.

The Commission also stressed that

(1) Some orientation to professional education is necessary for junior lecturers in higher education,

(2) Newly appointed lecturers should be given some time to acclimatize themselves to the institution and should be encouraged to attend lectures of good teachers;

(3) regular orientation courses for new staff should be organized in every university and where possible, in every college;

(4) In the bigger universities, or groups of universities, these courses may be placed on a permanent basis by establishing staff colleges.

Regarding a national enrolment policy, the Commission stated : "One of the major programmes in national reconstruction is the development of our human resources, and in this there can be no limit to the education to be provided. But in any given society and at a given time, the decisions regarding the type, quality and quantity of educational facilities depend partly upon the social and political philosophy of the people. India has committed herself to the creation of a democratic and socialistic pattern of society. The fundamental principles that should guide the provision of facilities at different stages and sectors of education, therefore, may be stated as follows :

is, therefore, essential to emphasize the quality of man-power produced because economic growth can be hindered rather than accelerated if appropriate standards are not maintained. Moreover, manpower needs cannot be the only criterion for regulating the provision of facilities.... However, estimated manpower needs provide for broad indications in terms of magnitudes, e.g. the total enrolments, needed in secondary and higher education, enrolments needed in different types of courses, shortages and surpluses in the manpower situation; and priorities involved.

Regarding the number of educated workers needed in 1976 and 1986, the Commission suggested two methods: One for services, in which many educated people are involved and one for the other sectors of the economy and stated : "To take the latter first, it has been assumed that, as net output in each branch of manufacturing industries increases, so proportionately will be the employment of educated manpower. The targets for economic growth assumed in these estimates, for the economy as a whole and for each sector are those prepared by the Perspective Planning Division of the Planning Commission. The overall growth targets are 6.6 percent a year from 1961 to 1976 and 7 percent for the whole period 1961-1986. Within these overall targets, sectoral targets naturally vary from 11.85 percent (factory establishment including power supply) and 11.24 percent (construction) to 3.86 percent (agriculture) in the period 1961-76. Projecting the growth of output in each separately allows for shifts in patterns of employment and reveals demands for educated workers in fast growing highly technical industries which would be lost in a simple overall growth rate. In 1961, a quarter of employed matriculates and a similar proportion of employed graduates were in public administration and defence. It is assumed that these will increase at four per cent a year. The need for teachers is derived from enrolment estimates and assumptions about pupil-teacher ratios and teachers' qualifications. The need for medical personnel distinguishes doctors, nurses and auxiliary personnel. The targets chosen imply one doctor per 3,000 population in 1975-1976 and one per 2,000 population in 1985-86 and similar number of fully trained nurses. Of the remaining services, legal and business services may grow as fast as economy as a whole; recreational and personnel services perhaps less fast. For the combined remaining services, a growth of 3 percent a year has been assumed up to 1976 and of 5 percent thereafter. The following two tables shown by the combination in their report from the source of Indian Statistical Institute, New Delhi and London School of Economics reveal the estimates of requirements for the period 1960-61 to 1985-86 :

reasons one of which is a rapid multiplication of educational institutions at this level which has made them easily accessible to young persons in thousands of small and out-of-the way places." And "as overall resources were absorbed in programmes of expansion of general education, it became impossible to pay adequate attention to programmes of qualitative improvement or vocationalization.. The benefit of expansion went largely to the privileged (fit or unfit) rather than unprivileged (even though talented among them) classes on the capacity to pay the fees. Moreover, there grew up an imbalance between the development of general and vocational education, the former for exceeding demand and the latter generally falling much below it. Consequently, this created problem of educated unemployment (for matriculates and general degree holders) while trained personnel for the development of agriculture, industry or research remained in short supply."

The Commission warned "During the next two decades, the demand for secondary and higher education will increase still further as primary education becomes universal and the general economic conditions improve. Under these circumstances, a continuation of the earlier enrolment policy will merely accentuate these evils "

Regarding man-power needs, the Commission stressed the need to pay due attention to the relationship between enrolment and manpower requirements "If India is to achieve its targets of economic growth, it must have an adequate supply of educated specialists for each category of job to be performed. Conversely, if there is an excess of trained people in any category, it implies an imprudent use of scarce resources and also creates difficult problems of unemployment of the educated. Even from the point of the view of the individual some matching of educational pattern and job opportunities is vital. Nothing is more frustrating than to be under-qualified or over qualified for a job, or to be unemployed because there is no call for one's qualifications. We believe, therefore, that estimates of future manpower needs form a useful basis for regulating enrolment patterns about the primary (general education) level"

'Manpower forecasting is not a precise operation because of the large number of imponderables involved. It is therefore, necessary to make a continuous effort to improve the collection of necessary data and the techniques of forecasting. This should be done regularly by the Central and State Governments. As manpower forecasts are ordinarily expressed in quantitative terms the expansion of educational facilities tends to receive undue emphasis in translating them into enrolment terms. It

Table-2
Estimates of Required Workers, Stock and Outturn of Matriculate and Above
India : (1960-61 to 1985-86)

	Thousands			Annual growth Rate		
	1961	1976	1986	1961-76	1976-86	1961-86
Matriculates and above Workers	5164	16,612	32,554	8.1	7.0	7.7
Total stock	8227	27,339	56,223	8.3	7.5	8.0
Out turn of matriculates	623	2,324	4,779	9.2	7.5	8.5
(6.8)	(16.4)	(27.4)				
Intermediate and above Workers	1,901	5,739	11,275	7.6	7.0	7.4
Total Stock	2,755	8,515	17,464	7.8	7.6	7.6
Out turn of intermediates	240	749	1,537	7.9	7.5	7.7
(2.8)	(5.6)	(9.1)				
Graduates and above Workers	1,146	3,299	6,543	7.4	7.1	7.2
Total Stock	1,510	4,433	9,082	7.5	7.4	7.5
Out turn of graduates	123	377	772	7.7	7.5	7.6
(1.5)	(3.2)	(4.9)				

Source : ISI/LSI Paper
N.B Figures in parentheses indicate percentages of the population in the corresponding age groups.

1 Estimated Requirements of Matriculates and Above by Industry Group

INDIA (1960-61 to 1985-86)* Thousands

Industry Group	1960-61 (Actual)				1975-76				1985-86			
	Matriculate	Intermediate	Graduate	Matriculate	Intermediate	Graduate	Matriculate	Intermediate	Graduate	Matriculate	Intermediate	Graduate
1	2	3	4	5	6	7	8	9	10			
1 Agriculture	381	46	67	681	83	120	984	120	174			
2 Mining	67	5	6	282	20	-	632	45	61			
3. Manufacturing	436	90	102	2880	584	707	6681	1355	1642			
4. Construction	99	13	19	503	150	97	1131	337	218			
5 Trade & Commerce	452	100	92	1181	262	240	2565	570	522			
6 Transport & Communications	318	80	94	1200	301	354	2608	654	769			
7. Services (Other)	1509	404	765	4147	1040	1754	6677	1653	3156			
Public Services	723	245	296	- 1299	441	533	1923	652	789			
Educational Svcs.	467	102	290	2123	463	877	3041	668	1728			
Medical & Health	124	27	47	379	82	175	1139	248	360			
Other services	195	30	132	357	54	169	574	85	279			
Total :-	3,262	755	1,146	- 10,874	2,440	3,299	21,278	4,734	6,542			

Source : ISI/LSE Paper.

The Commission broadly accepted these forecasts, subject to periodical revision, as a basis for a national enrolment policy and indicated the main conclusions with regard to future educational development—

—to restrict the unplanned and uncontrolled expansion of general secondary and higher education;

—to make special and intensive efforts to vocationalize secondary education and to develop professional education of the university stage;

—to devise suitable machinery, at both the national and State levels, which will relate the estimates of man-power needs effectively to the output of the educational system so that, by and large, there is some assurance that a suitably trained person would be available for every job to be done and every educated person would find a job appropriate for his education and professional training.

At the lower secondary level, the Commission recommended that selection should be oriented more towards 'testing and guidance' than towards 'elimination' and that its main objective should be to enable a student to know his own level of achievement and his potentialities and to decide whether it would be in his interest to leave the school and enter the world of work, or to join a particular course, or to continue in the stream of general education.

Regarding admissions to Higher Secondary and University education, the Commission expressed their feeling against the present policy of open door access, and recommended good methods of selection instead of rigid acceptance of marks obtained at examinations. A reliable method of selection should take account of past performance, native talent and the principles of social justice. The Commission observed further: "If enrolment in higher and University education should be related to broadly determined national goals for trained manpower, two steps are needed. The first is to fix the number of places in university departments or colleges in advance, keeping in view the manpower needs and the facilities available; and the second is to make admission to these places on a selective basis with due regard to the natural talents of the students, their achievements at earlier stages, and the principles of social justice."

"At the higher secondary level, leading to intermediate or its equivalent considerable guidance is given by the manpower forecasts. These suggest that by 1985-86 there should be 2,4,13,000 enrolments in vocational schools and perhaps 6,00,000 in vocational colleges out of the total."

The following table was reproduced from ISI/LSE Paper by the Commission to indicate the position of enrolments and out turns during the period 1960-61 to 1985-86.

Enrolments proposed (1960-1961 to 1985-86)
Thousands

	1960-61		1975-76		1985-86	
	Enrolments	Passes	Enrolments	Passes	Enrolments	Passes
Matriculation level						
General Classes :						
VIII, IX, X, X/XI	3582	585	12324	2324	23630	4779
Vocational (School) 1,2	119	48	361	135	738	278
Total Matriculates	3701	633	12685	2459	24368	5057
Intermediate Level :						
General : Years I & II						
degree course 5	597	208	—	—	—	—
College (Professional)	80	35	—	—	—	—
Total College	677	243	2176	749	4460	1537
School (Vocational)						
Engineering Diploma	46	10	297	67	573	139
Others	181	42	701	151	1438	310
Teacher Training 1, 4, (all non-graduate)	123	75	453	211	402	169
Total School 1 ..	350	127	1451	429	2413	618
Total intermediate	1072	370	3627	1178	6873	2155
Under graduate level-						
First Degree :	822	96	—	—	—	—
Years : I, II, III and IV						
Professional 3	174	30	—	—	—	—
Total	996	126	3038	377	6216	772
Total						
Enrolments in 6 years III, IV only	320	126	972	377	2985	772

Source - ISI/LSE Paper

- Notes : 1. Not represented in the manpower data.
 2. Including some teacher training, 1960-61 only.
 3. First degree only (excluding degree in teaching and law).
 4. Excluding courses at Matriculate level in 1960-61.
 5. Enrolment in Class XI and/or XII and intermediate and equivalent classes.
 6. In 1985-86 the enrolment figure is based upon three year courses and thus represents enrolments in years III, IV, and V.

The following table shows the enrolment increase during the period 1960-61 to 1985-86 as established by the Secretariat of the Commission - Thousands.

	1960-61			1975-76			1985-86		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Pre-Primary	5,381 (27.5)	3,231 (17.0)	8,612 (22.3)	5,000 (18.9)	5,000 (20.1)	10,000 (19.5)	5,000 (20.5)	5,000 (22.1)	10,000 (21.3)
Primary	17,170 (74.0)	7,826 (35.0)	24,996 (54.8)	38,066 (109.7)	33,484 (68.6)	71,550 (89.7)	39,509 (110.0)	36,730 (110.0)	76,239 (110.0)
Class I-IV. Class V-VII.	5,587 (35.5)	1,876 (12.5)	7,463 (24.3)	19,774 (81.9)	12,620 (55.7)	32,394 (69.2)	25,214 (90.0)	23,500 (90.0)	48,714 (90.0)
Total -	22,757	9,702	32,459	57,840	46,104	1,03,944	64,723	70,730	1,24,953
Secondary Class VIII - X. (Gen.)	2,876 (19.9)	706 (5.2)	3,582 (12.8)	8,558 (38.3)	3,309 (15.6)	- 11,867 (27.3)	13,221 (48.3)	6,274 (24.5)	19,495 (36.8)
Classes VIII-X (Vocational)	65 (0.5)	35 (0.3)	100 (0.4)	546 (2.4)	272 (1.3)	818 (1.9)	3,305 (12.1)	1,568 (6.1)	4,873 (9.2)
Classes XI-XII (General)	418 (4.7)	73 (0.9)	491 (2.8)	1,262 (9.1)	354 (2.7)	1,616 (5.9)	2,502 (14.4)	935 (5.7)	3,437 (10.2)
Classes XI-XII (Vocational)	299 (3.3)	59 (0.7)	358 (2.1)	1,089 (7.9)	284 (2.1)	1,373 (5.1)	2,502 (14.4)	934 (5.7)	3,436 (10.2)
Total	3658	873	4531	11,455	4219	15,674	21,530	9711	31,241

"At the undergraduate level, forecasts of the need for specialists suggest some 8,33,000 enrolments in 1985—86, in engineering, agriculture and medicine. To this must be added the enrolments in degree courses in teaching and law."

The Commission highlighted three major points which should always be kept in mind in relation to human resource development. :

I. Financial Feasibility : Forecasts of man-power needs give only a broad quantitative indication of the needed workers according to broad levels of educational attainment. But the education and training of the number of workers indicated at given levels of efficiency may require expenditure of an order which the economy will not be able to afford. It is, therefore, necessary to examine the financial implications of the manpower needs continuously.

II. The Availability of Real resources : Though money is difficult to be raised in a poor country like ours, it is more difficult to find real sources; i.e, teachers, equipment and building. "The shortage of staff in engineering institution is of order of 30 percent or more. Equipment, particularly of foreign manufacuter, is in short supply; and grants for buildings remain often unutilized.

III. Utilization of the Existing Man-power : "When we think of increasing man-power we should also think of the manner in which the existing trained man-power is being utilized. There is a reason to believe that a fair proportion of our trained manpower is being underutilized; and in some cases, it even remains unutilized. A continuous effort to study the problem of maximum utilization of the existing real sources will deliver to us an immediate gain without further investment and will also alter the forecasts for the future, either by reducing the numbers needed or by increasing the level of achievements.

To these three points we must add the problem of fluctuation in the rate of the growth of national economy and G N P as well as the sporadic growth of population. India is not yet politically in a stable and peaceful position so that the fixed goals can be reached in time. Indian agriculture still semains 'the gambling in rain,' and devastating floods compel us to spend the balance of foreign exchange supposed to import necessary plants and machine.y for industrialization, modernization and strengthening the material resources of our vocational education, for importing food grains to satisfy the hunger of millions of our people This affects our economic growth and estimates of man-power needs.

It will be seen that the total enrolments in education will be about quadrupled between 1960-61 and 1985-86 and increase from 46 million to 170 million. The enrolment of boys will increase to about three times from 32 million to 94 million and that of girls to about five and a half times - from 14 million to 76 million.

About the educational levels of the working force (1961-86), the Commission reproduced the following two tables from ISI/LSE paper, Tables no 13 and 14.

I Estimated Total Future Employment in India (1961-86) (in Thousands)

Industry	All workers 1960-61	Workers			1985-86
		1960-61	1975-76	1985-86	
(1)	(2)	(3)	(4)	(5)	
1 Agriculture	1,35,444	1,23,817	1,44,662	1,44,462	
2 Mining Manufacturing	- 20,927	-	19,202	-	63,861
3 Construction	- 2,059	-	1,992	-	9,273
4 Trade and Commerce	7,654	7,500	12,135	18,764	
5. Transport and Communication	3,019	2,993	6,882	11,525	
6 Services (others)	19,572	18,697	32,906	45,210	
Totals	1,88,675	1,74,203	2,43,734	2,93,095	

Higher	351	83	434	1038	312	1350	1589	563	2152
Undergraduate (Arts, Science Commerce)	(2.8)	(0.7)	(1.8)	(5.5)	(1.7)	(3.6)	(6.4)	(2.4)	(4.5)
Undergraduate (Professional)	131	15	146	432	99	531	818	230	1048
Post-graduate (General & Pro- fessional)	(1.0)	(0.1)	(0.6)	(2.3)	(0.5)	(1.4)	(3.3)	(1.0)	(2.2)
Post-graduate (General & Pro- fessional)	53	11	64	257	64	321	749	211	960
Grand Total	535	109	644	1727	475	2202	3156	1004	4160

N.B. The figures in parentheses represent percentages of the corresponding age groups. Totals do not tally on account of rounding.

Notes - 1. The statistics for 1960-61 are of actuals as reported by the Ministry of Education in Form A.

2. The enrolments at the primary stage have been based on the need to fulfill the constitutional Directive. They have no man-power implications.

3. The enrolment at the lower secondary stage has been based on manpower estimates with one difference from the ISI/LSE Paper: We have assumed the responsibility in vocational education to be 20 percent of total enrolment (There are no manpower indications for this)

4. At the higher secondary stage the total enrolment is based on manpower estimates. The enrolment in vocational education is assumed to be 50 percent of the total enrolment, as against 43 percent indicated by the ISI/LSE paper.

5. At the undergraduate stage, the total enrolment as well as those in vocational education have been based on the manpower requirements given in ISI/LSE paper.

6. The enrolments at the post-graduate stage have been derived separately.

Government of India and the State Governments on manpower problems and their implications for educational planning. At the State level, it may be desirable to set up State Committees of manpower on the broad lines of the standing committee for manpower at the centre. It would be a duty of the State Committees to prepare State level plans for manpower development. Similar plans should also be prepared as soon as practicable. Man power estimates should be related to the intake and output of the educational system or to 'Plan' the facilities to be provided in educational institutions in accordance with manpower requirements. This will have to be done both at the national and at the State levels. The provision of vocational education-both at school and college standard-will have to be expanded in all areas on a priority basis in keeping with the manpower needs.

For enrolments in general education the Commission recommended a policy of equalization and suggested the following measures for the decisions to be taken by the states :

1. In all areas where the level of expansion reached is below the national average in 1966, steps should be taken to promote expansion.
2. In all areas where the level of expansion reached is about equal to the national average expected in 1986, a restrictive policy should be adopted unless there are special reasons to the contrary.
3. It will be for the Government of India to suggest the targets to be reached from time to time, at the State level. State Governments may, in their turn, indicate suitable targets at the district levels!
4. The planning of higher education should be done on a state basis. All universities in the State should be involved in this. Each university should be required to prepare a five year plan of the facilities to be provided in all its teaching departments and affiliated colleges and the output therefrom, and these should be approved after bringing them into accord with man power needs. In granting affiliations for expanding their departments, the universities should be required to follow these plans.
5. It is also essential to have an authority at the district level which can plan all school education. These authorities will have to plan in the light of general directive given from the centre and the States. In order to assist in its work, local studies of manpower needs, etc. will have to be carried out. Stressing the need for wider perspective the Commission stated : "Significant problems of life cannot be solved in isolation...If manpower planning is to be successful in the sense that

II. Matriculates and Above as percentage of Total Estimated Employment (Percentages)
 (1960-61 to 1985-86)

	1960-61			1975-76			1985-86		
	Matriculate	Intermediate	Grad.	Matri.	Inter.	Grad.	Matri.	Inter.	Grad.
1. Agriculture	0.3	...	0.1	0.5	0.1	0.1	0.7	0.1	0.1
2. Mining & Manufacturing	2.4	0.5	0.5	7.8	1.5	1.8	11.5	2.2	2.7
3. Construction	4.8	1.5	0.9	7.6	2.3	1.5	12.2	3.6	2.3
4. Trade & Commerce	5.9	1.3	1.2	9.7	2.2	2.0	13.7	3.0	2.8
5. Transport & Communication	10.5	2.7	3.1	17.4	4.4	5.1	22.6	5.7	6.7
6. Services (Others)	7.7	2.1	3.9	12.6	3.2	5.3	14.8	3.7	7.0
Total	1.7	0.4	0.6	4.5	1.0	1.4	7.3	1.6	2.2

The above two tables make it clear that despite all the expansion of education visualized by the Commission, the proportion of educated and trained manpower would still be small even in 1986. The Commission expressed the hope that illiteracy would be liquidated by then. The proportion of matriculates, intermediates and graduates in the working force will have increased as indicated in table II above. The Commission, however, pointed out that this projected achievement is much below the level already reached in industrial countries. A machinery should, therefore, be created which will not only prepare estimates of man power needs but also relate them effectively to the output of the educational system.

At the national level the planning Commission should set up a standing Committee for manpower consisting of the Ministries of Defence, Education, Food and Agriculture, Health, Home, Labour and Employment, Railways and others concerned with the training of large and easily identifiable categories of manpower. The UGC and the Institute of Applied manpower Research should be represented. This committee should work in close collaboration with authorities for manpower planning at the state level. Its main responsibility should be to prepare and revise, from time to time, manpower forecasts for the overall output of the educational system as well as for the different categories of specialists. The Committee should advise Ministries of the

available talent must ensure progressive equality of opportunity to all sections of the population. This is the only guarantee of building up an egalitarian society in which the exploitation of the weak is minimized. The Commission further recommended that the responsibility for developing an adequate scholarship programme at the school stage should rest with the State Governments and that in higher education it should be regarded as a responsibility of the Government of India to make adequate provision for scholarship in all institutions of higher education general and vocational and also for scholarships for study abroad.

Regarding education of girls the Commission observed—The significance for the education for girls cannot be over emphasized. For full development of our human resources the improvement of homes and for moulding the character of children during the most impressionable years of infancy the education of women is of even greater importance than that of man. The education of women can assist greatly in reducing the fertility rate. In the modern world, the role of the women goes much beyond the home and the bringing up of children. She is now adopting a career of her own and sharing equally with man, the responsibility for the development of society in all its aspects. This is the direction in which we shall have to move. In the struggle for freedom, Indian women fought side by side with men. This equal partnership will have to continue in the fight against hunger, poverty, ignorance and ill health.'

The Commission fully endorsed the recommendation of the National Committee on education of women under the chairmanship of Smt Durgabai Deshmukh, the Committee on Directorate of curricula between boys and girls under the Chairmanship of Smt Hana Mehta, and the Shri M. Bhrikta Vatsalini Committee which studied the problem in the six States where the education of girls is less developed and suggested the strategy (1) to emphasize Special programmes recommended by the National Committee on Women's Education and (2) to give attention to the education of girls at all stages and in all sectors as an integral part of the general programmes for the expansion and improvement of education. They further advised to keep in mind the fact that the role of women outside the home has become an important feature of social and economic life of the country and in the years to come this will assume large proportions reflecting a majority of women. Women have to play a dual role of home making and following a suitable career.

The Commission broadly agreed with the recommendations of the Commission on scheduled areas and scheduled tribes under the chairman-

there would be a trained man available for every job to be done and that an appropriate job would be available for every educated person, it is necessary to prepare an integrated plan of development-a plan which will consist of three parts: Family planning, economic development and educational reconstruction. At present, the labour force cohort (i.e. boys and girls who attain the age of 16 or over and enter the labour force in a given year) suffers from several serious defects and difficulties such as the following :

-Its size is too large-about 2 percent of the total population-owing to the large birth-rate.

-Its educational attainments are also very meagre-about 60 percent of the cohort is illiterate and about 40 percent would have completed primary schooling and attained permanent literacy. Of the latter 40 percent would have received more than five years of schooling and probably completed the primary school course; about 8 percent would have completed the secondary school; and only 1 or 2 percent might be graduates. The proportion of educated persons in these cohorts is far too inadequate for the creation of a modern social order. What is worse, the little education that has been given is so predominantly academic that there are no trained persons to man the key posts in certain sectors of industrialization now being developed.

-The rate of economic development, especially in rural areas is so slow that there are not enough jobs for even half of these cohorts."

With a view to improving this situation the Commission recommended an integrated plan of development with the objectives (1) to reduce the birth-rate to about half in a planned programme of 10-15 years; (2) to bring about a very rapid economic development so that there would be a job for every young man or woman who enters the labour force; and (3) to provide such education to the young boys and girls as will qualify them, by having a specific job to do and to participate in the national development programme. Such plans are needed at the national, State and even district levels.

The Commission stressed equalization of educational opportunities to the various social stratas and various regions by way of financial assistance, in various forms, to the educationally backward masses and regions and stated: "One of the important social objectives of education is to equalize opportunity, enabling the backward and under-privileged classes and individuals (including girls) to use education as a lever for improvement of their condition. Every society that values social justice and is anxious to improve the lot of the common man and cultivate all

education upto the age of 14 years the Commission advocated good general education of seven years' duration to every child. This programme should fulfill three conditions

(1) Provision of a school within the easy distance from the home of every child,

(2) The enrolment of every child of the prescribed age into class I of a school through propaganda persuasion and even penal action if necessary

(3) The retention of every enrolled child in school till he reaches the prescribed age or completes the prescribed course

Thus universal provision, universal enrolment and universal retention are imperative for planning primary education in the country. The Commission advocated simultaneous implementation of a programme of qualitative improvement of education on the ground that universal enrolment or retention depends very largely on the attracting and holding power of the schools. Taking note that in almost all States villages with a population of 300 or over are provided with schools, the Commission stated that the position is still far from satisfactory at the higher primary stage as the higher primary schools numbered 78,000 i.e. about one higher primary school to about five lower primary schools, as against the desirable target of one to three. The ratio at that time was one to five and in some states it was one to ten. Comparing enrolment to class I (the initial cohort of the educational system) with the same in advanced countries, the Commission observed In all progressive countries this initial cohort is homogeneous and consists mostly of children of the prescribed age for admission. In India, on the other hand the initial cohort in Class I has always been extremely heterogeneous and its heterogeneity is being reduced only slowly. In advanced countries, parents are required to pre register at least one year in advance the names of children who are to be admitted to school for the first time and only those children are enrolled in Class I who are within the prescribed age range. Such a system is conspicuous by its absence in India and the Commission recommended the introduction of such a system. The Commission stated At present the rate of transfer of pupils from Class IV which is the end of the lower primary stage to Class V is about 85 percent. This rate should be raised to 90 percent by the end of the fourth plan and to 100 percent by the end of the fifth plan. For this the Commission advocated parental education persuading them to accept inevitability of mixed schools for boys and girls at higher primary stage.

ship of Shri. U. N. Dhebar and recommended that at the primary level the provision of facilities will have to be improved and Ashram schools should be established in sparsely populated areas. They stressed that the teachers in these areas should be conversant with the tribal languages. The Commission observed:

"The Education of the backward classes in general and of the tribal people in particular is a major programme of equalization and national integration. No expenditure is too great for the purpose."

Against the traditional practice to divide the period of school education into three stages-pre-primary, primary, and secondary based on three stages of child-development-infancy, childhood and adolescence, the Commission suggested an integrated approach to school education and stated : "In recent years these distinctions are either becoming blurred or have vanished altogether, for instance, it is increasingly realised that the dividing lines between pre-primary and primary and secondary are arbitrary and variable. Similarly, the traditional view that primary education should provide undifferentiated general education while secondary education should be diversified to meet the varying aptitudes, interests and abilities of children is no longer universally held; and in some countries such as the USSR, the entire course of school education-primary and secondary-has been designed on one set of principles. We have found it, therefore, more convenient and appropriate to treat the entire pre-university period of education as one stage. Such a treatment is almost inescapable for a proper planning and development of the school curriculum." However, the Commission recognised such distinction while discussing the problems of expansion of education at these stages.

Regarding pre-primary education, the commission observed that pre-primary education is of great significance to the physical, emotional and intellectual development of children, especially those with unsatisfactory home backgrounds and that on enrolment of five percent of the population in the age group 3 to 5 in the pre-primary schools proper and of 50 percent in the age-group 5-6 in pre-school classes would be a reasonable target. For this stage, "We can hardly talk about a curriculum for pre-primary schools; it is more appropriate to think of it as a programme of activities." This programme should be flexible and should consist of various types of play, manual and learning activities accompanied by sensorial education.

Referring to the directive principle contained in Article 45 of the Constitution that the State should strive to provide free and compulsory

- (8) poor teaching of beginning reading,
- (9) inadequately prepared teachers, and
- (10) a wrong system of examination

The commission stated "The remedy for some of these defects are self evident and most of them could be eliminated through the development of qualitative programmes and other suitable programmes recommended as under:

(1) The examination at the end of Class I should be abolished and the first two classes (and wherever possible the first three or four classes) should be regarded as one teaching unit within which each child can progress according to his own pace,

(2) The introduction of a year of pre school education,

(3) The adoption of play way techniques in Class I for introducing the child to school life in a pleasant way. For this purpose methods of instruction in class I should be patterned in the light of the techniques utilized at the pre primary stage and the teachers in charge of this class should be trained & oriented accordingly.

Stating that the causes of wastage and stagnation in classes other than Class I in the primary schools may be broadly divided into three categories economic, educational and social the Commission recommended part time education (of about one and a half or two hours per day for about three days a week) and stated that by this it is possible to make those who do not attend the school regularly functionally literate in the course of one year. Such courses should also be organised for those who have completed the lower primary stage and who desire to study further but cannot for economic reasons afford to do so on a full time basis. In fine the Commission observed "It has to be remembered that wastage and stagnation like headache and fever, are not diseases in themselves. They are really symptoms of other diseases in the educational system the chief among which are the lack of proper articulation between education and life and the poor capacity of the schools to attract and hold students. To these may be added a third ailment poverty which falls outside the system. Urgent action is needed to remove the first two educational weaknesses, the effect of the third can be offset only as the economy of the country improves. The goal of universal retention of pupils therefore is the most difficult of all and can be reached only over a period of time."

Regarding expansion of primary education the Commission stated "expansion at the lower primary stage has been very rapid in the

The Commission deplored that very little effective action has been taken to reduce wastage and stagnation and to ensure progressive retention of pupils in primary schools. They observed "In a good system of school education, the distribution of pupils over the different classes should be fairly uniform, but it is not so in our country. The total enrolments in class I are proportionately very large. This is partly because of the large stagnation in this class and partly because about one third to one half of the total wastage at the primary stage occurs at the end of this class only. As against 100 children enrolled in class I, there were only 20 in class (iv) in 1911-12. In 1946-47, this proportion increased to 39. In the post independence period, however, this position has not only not improved but has deteriorated to some extent, because in 1965-66, there were only 37 students in Class (iv) against 100 in Class I. The rapid expansion that has taken place has led to a slight increase in wastage and stagnation. As against 100 pupils in Class I, there were four pupils in Class VII in 1911-12. The proportion increased to 15 in 1946-47 and to 20 in 1965-66. There has been, therefore, a slow but steady progress in higher primary education throughout this period."

As regards stagnation, the Commission reported that (1) stagnation is the highest in Class I; (2) it is reduced considerably in Class II and then remains fairly constant in Class III and IV; (3) at the higher primary stage, stagnation decreases still further, (4) on the whole, stagnation among girls is greater than among boys, and (5) the extent of stagnation shows considerable variations from area to area and asserted that the most important programme to be implemented at the primary stage during the next ten years is to improve quality of education and to reduce stagnation and wastage to the minimum."

According to the Commission, the large stagnation and wastage in Class I is due to a variety of causes which include

- (1) heterogeneity of the age composition of students,
- (2) the practice, which obtains in several states, of making fresh admissions throughout the year, instead of in the first month or so of the school year,
- (3) irregularity of attendance,
- (4) lack of educational equipment in the school as well as with the children,
- (5) over crowded classes,
- (6) unsuitable curricula;
- (7) inability of the teachers to use playway techniques which can assist in initiating the children pleasantly to school life,

first three plans. The total enrolments increased from 14 million in 1950-51 to 37 million in 1965-66 nearly a three-fold increase in 15 years. This implies an average annual growth of 4.9 percent in the first plan; 7.5 percent in the second and 8.2 percent in the third. We expect the same tempo to continue in the fourth plan. In the next ten years, as we hear the saturation point, the tempo of expansion will slow down considerably to 5.5 per cent per year in the fifth plan and 2.2 percent in the sixth. The total enrolments are expected to increase from 37 million in 1965-66 to 54 million in 1970-71, to 72 million in 1975-76 and to 80 million in 1980-81.. At the higher primary stage, the expansion in the first three plans has been even more rapid, the total enrolment increasing from 3 million to 13 million in 1965-66 - about a four-fold increase in 15 years, The tempo of expansion has been rising from plan to plan, the average annual rate of growth being 7.6 percent in the first plan, 10.2 percent in the second and 11 percent in the third. In the next twenty years, the expansion will be about three and a half times and the enrolments will rise from 13 million in 1965-66 to 32 million in 1975-76 and to 49 million in 1985-86.

The Commission laid stress on the two problems concerning expansion of the education of girls and of tribals with the comment that the problem of fulfilling the Constitutional Directive is essentially the problem of educating girls and suggested, among other measures, provision of part time education for girls in the age group 11-13 who cannot attend schools on a whole-time basis because they are required to work at home,

The Commission strongly recommended enrichment of curricula and improvement of quality; "Expansion of facilities at the primary stage and the universal enrolment of children and their retention in school till the end of the compulsory period is only one aspect of the fulfilment of the constitutional Directive. An equally important aspect is qualitative improvement so that the instruction imparted becomes good education and helps children to grow into useful and responsible citizens. The most crucial programme from this point of view is the improvement in the quality of primary teachers. Another equally significant programme is the introduction of work-experience as an integral part of primary education. Besides this, the teaching of science and mathematics has to be vitalized, the entire curriculum has to be overhauled and improved, and modern methods of teaching and evaluation have to be adopted."

Referring to the problems of expansion of Secondary education (classes VIII to XII), the Commission considered two aspects (1) esta-

who have completed the primary school will be able to enter these courses of industrial training

2 The terminal programmes provided in technical schools which will prepare students for jobs in industry form another category of the vocational courses at this stage

3 A large number of students who drop out after class VII or Class VIII will enter employment in family business some with the idea of setting up their own small scale industry or trade. A wide range of courses should be available on a part time basis for them to obtain qualification or to upgrade their skills. We recommend that a special section should be set up in the Education Department which will remain in touch with such young persons help them to obtain suitable opportunities for training either on a full time or on a part time basis and also provide them side by side, with some general education

4 A large proportion of the rural boys will join the family farm. They will have to be provided with further education which will enable them to improve their professional efficiency and general education

5 A large proportion of girls will have to leave school and get married either immediately or a little later. They should be given further education in Home science combined with general education

For the higher secondary stage the Commission stated that a wide range of vocational courses will be available at the stage and recommended is under

1 Apart from full-time polytechnical studies, we envisage the development at this stage of part time vocational courses in industry arranged on either day release sandwich or correspondence course basis

2 Agricultural and engineering polytechnics should organize short condensed courses for the upgrading of skills of those who have entered into employment or the retraining and re-education of those already qualified

3 A large number of courses offered in industrial training institutes require the completion of Class X as a qualification of entry

4 In addition to the courses so far described a wide range of other courses in health commerce administration small scale industries and the services should be developed ranging in duration from six months to three years for a certificate or a diploma qualification

"—even at the present rates of expansion, standards have deteriorated because enrolments have outstripped available facilities like teachers or equipment. Besides, there has been a large increase in unemployment amongst the matriculates. If the present trends continue or are allowed to increase, this deterioration in standards will be accentuated and educated unemployment will be extremely serious."

To regulate enrolments at the Secondary stage, the Commission recommended the adoption of a policy of (1) locating secondary schools by evolving a well thought out development plan to be prepared separately in each district, after taking into consideration the existing and prospective needs of expansion, (2) maintaining adequate standards and determining enrolments and intake of each secondary school with reference to places available and (3) selecting the best applicants for the places available. The Commission recommended more rigorous standards at the higher secondary stage. Such standards should be based not only on the marks obtained in the public examination at the end of Class X, but also on the school record, the proficiency of the students in fields not tested in the examination and such other relevant factors.

The Commission considered vocationalization as the most important feature at the secondary stage and visualized that

"—at the lower secondary stage, the enrolment in vocational education was about 3 per cent in 1951-52. In 1965-66 it declined to 2.2 per cent because of a very rapid increase in general education. It is assumed that a systematic attempt will be made to introduce vocational courses at this stage, either part time or full time, and to increase the enrolment in these courses by 1986 to about 20 per cent enrolment."

"—at the higher secondary stage, the enrolment in vocational courses is now about 40 percent of the total of enrolment. If the general education course were lengthened to two years (XI-XII), this proportion of enrolment in vocational courses would fall to about 20 percent. One of the major reforms we envisage is to vocationalize higher secondary education and to raise the enrolment in the vocational courses at this stage to 50 percent of the total enrolments."

Suggesting the types of vocational courses at the lower secondary stage, the Commission suggested

1. In the Industrial Training Institutes, there are courses which are open to those who have completed the primary school. If the age of the admission to these courses is reduced to 14, a large number of students

100 the proportion varying from 4.5 per cent in Kerala to 45.1 per cent in Rajasthan. About 38.3 per cent have an enrolment of 400 and over. The best position is in Kerala, where because of continuous population and density of population 52 per cent of schools have an enrolment of 400 and over. The worst position is probably in Rajasthan where only 15.6 percent of the schools have an enrolment of 240 and above. A good working rule would be to establish a secondary school to serve a radius of five to seven miles with a total population coverage of 10,000 to 15,000. Institutions of vocational education have to be large in size to be economical and efficient. At present schools of agriculture are too small to be efficient. Medical schools also are of a small size but this is probably unavoidable as these institutions are mostly attached to hospitals. The training schools for primary teachers as well as the training colleges for secondary teachers are also of very small size. The Commission recommended that the minimum of such an institution should be about 200 for colleges (one year course) and 400 for schools (two year course). They also recommended that all vocational schools should be located close to the industry concerned.

The Commission considered the problem of revision of school curriculum in the context with the present international educational development with the remarks: "The school curriculum is in a state of flux all over the world to-day. In developing countries it is generally criticised as being inadequate and outmoded, and not properly designed to meet the needs of modern times. Even in the educationally advanced nations like USA, the content of the school courses is being challenged by several scholars and university men. The tremendous explosion of knowledge in recent years and the reformulation of the basic concepts of the physical, biological and social sciences has brought into sharp relief of the inadequacies of existing school programmes. The gulf between the school and the university in major disciplines which was always wide has become wider still with the rapid advance of science. Expert opinion now generally favours the lengthening of the period of general education and the postponement of specialised study to a later period in the secondary school course. Again, with the necessity of including more and more significant items in an already over-packed school curriculum, it is realised that there is a good deal of useless educational lumber in the school courses which can be safely discarded, and that more dynamic and stimulating methods can be developed for presenting essential knowledge."

The commission charged the school curriculum in India as narrowly conceived and largely out of date. Education is a three-fold process

These can be offered on a part-time basis through correspondence for those already in employment.

The Commission suggested a list of courses which is appended at the end of this chapter. They recommended that special sections should be created within the state Department of Education and charged with the over-all organisation of courses of this nature, whether full-time or part-time and that in organizing such programmes the sections should bear in mind the man-power needs and work in close collaboration with the machinery for vocational guidance and with industry and employers generally.

Making remark that it was the federal grants for vocationalization in secondary schools that stimulated the vocationalization of secondary education in the USA, the Commission recommended that special grants to State Governments should be provided by the Central Government in the centrally sponsored sector.

The Commission laid special emphasis on the expansion of secondary education among girls. At the lower Secondary stage, the proportion of enrolment of girls to that of boys was about 1.65 in 1950-51 and it was 1.5 in 1965-66. During next twenty years, (i.e. by 1985-86) it is proposed to be raised to 1:3. The Commission affirmed their full agreement to the recommendations by the National Committee on Women's Education and stressed that—

1. Separate schools for girls should be specially encouraged and in mixed schools in small places, there should be some women members on the staff;
2. Hostels for girls should be encouraged; and whenever feasible, subsidized transport may be arranged;
3. Special consideration should be shown to girls in the scholarship programme that may be developed at this stage;
4. Part-time and vocational education for girls should be greatly emphasized. About the size of a secondary school, the Commission states; "In order to be well equipped and efficient, a secondary school should have at least three divisions in each of three classes of the secondary stage, i.e., a total of nine divisions and enrolment between 360 and 450. With a school of this size, a staff of about 20 teachers is possible and all the necessary facilities can be provided without increasing the cost per student unduly. If the specifications are lowered to two divisions per class or a total of six divisions, the enrolment will be 210 or 300. But the existing position is unsatisfactory on both these criteria. As many as 26.6 per cent of our secondary schools have an enrolment of less than

education. The remaining 80 per cent of the pupils at school should, in our opinion, continue to receive general education for a further period of three years, without any diversification of studies, but with provision of courses at two levels and of options in creative activities and types of work-experience. In other words, there would be a single curricular stream from Class I to Class X ending with the first external or public examination, and there will be no 'streaming' or specialization in this general course."

These recommendations of the Commission are different from those made by the Secondary Education Commission (1952-53) which recommended diversification after Class VIII and a higher secondary upto Class XI. The Education Commission observed that diversification should not be introduced at so early a stage and that the multipurpose schools which were started as the result of the Secondary Education Commission could not succeed because

1. Most of the pupils who join these schools have only one purpose in view-to pursue their studies further in a University;
2. An analysis of the different groups of electives in the existing multipurpose schools will show that comparatively few schools have more than three diversified groups, so that one of the major objects for which the scheme of diversification was introduced-to provide a variety of courses to suit the different interests, aptitudes and abilities of adolescent students-has not been realized.

About standards of attainment at the different stages, the Commission stated that the standard of attainment at the end of each sub-stage should be clearly indicated and that these standards should be defined in terms of the knowledge, skills, abilities and attitudes to be developed in context with the over-all objectives of school education. The Commission's views of standards for each sub-stage were as under-

(1) At the lower primary stage (classes I to IV) the child should receive instruction in the basic tools of learning such as reading, writing and computation, and learn to adjust himself to his surroundings through an elementary study of his physical and social environment. He should participate in activities which develop his constructive and creative skills and teach him the habits of healthy living. In order that a sound foundation in mother-tongue may be laid at this stage, no language other than this should be introduced during the first four years. The curriculum of these classes should be gradually expanded and developed in keeping with the child's growth and development."

of imparting knowledge, developing skills and inculcating proper interests, attitudes and values. Our schools (and also our colleges) are mostly concerned with the first part of the process—the imparting of knowledge and carry out even this in an unsatisfactory way. The curriculum places a premium on bookish knowledge and rote-learning, makes inadequate provision for practical activities and experiences, and is dominated by examinations, external and internal. Moreover, as the development of useful skills and the inclusion of the right kind of interests, attitudes and values are not given sufficient emphasis, the curriculum becomes not only out of step with modern knowledge, but also out of tune with the life of the people. There is thus urgent need to raise, upgrade and improve the school curriculum.

Most of the curricular revision attempted so far has been of an adhoc character—not generally preceded by careful research, not based on adequate expertise and not followed by necessary supporting measures as the preparation of learning materials, the orientation of teachers or the provision of the needed physical facilities. What is worse, the curricula are prepared at the State level and are prescribed uniformly for all the schools in the State. Such a procedure cramps the freedom of head masters and teachers and renders experimental work almost impossible. A curriculum should be related to the quality of teachers, the facilities available in the school and the needs of the students with reference to their socio-economic background. These vary immensely from one institution to another. Consequently, a single state curriculum designed to serve the needs of the average school ceases to be meaningful for the large variety of institutions in the state. The solution lies in making it possible for schools to devise and adopt curricula suited to their own needs and to vie with one another in upgrading them."

The Commission laid a great stress on research in curricula, suitable and adequate preparation of text books and teaching aids and in-service education of teachers and recommended (1) freedom to schools to adopt experimental curricula and (2) preparation of advanced curricula and the gradual introduction of the same through a phased programme spread over a number of years.

Recommending a single general curricular stream from Class I to X, the Commission stated "For the first seven years schooling, there will be an undifferentiated course of general education for all. Of those who continue their studies after class VII, an estimated 20 per cent are expected to be provided with fulltime or part time vocational

- (b) Mathematics,
- (c) Science,
- (d) Social studies or History, Geography and Civics,
- (e) Art,
- (f) Work experience and social science,
- (g) Physical Education,
- (h) Education in moral and spiritual values.

3 Lower Secondary stage (classes VIII-X)

- (a). Three languages. In non-Hindi speaking areas, these languages will normally be (i), the mother tongue or the regional language (ii) Hindi at a higher or lower level, (iii) English at a higher or lower level.

In Hindi speaking areas, they will normally be (i) mother tongue or the regional language, (ii) English or Hindi, if English has already been taken as the mother tongue and (iii) a modern Indian language other than Hindi,

[Note : A classical language may be studied in addition to the above three languages on an optional basis.]

- [i] Mathematics
- [c] Science
- [d] History, Geography and Civics
- [e] Art
- [f] Work-experience and social service
- [g] Physical education
- [h] Education in Moral and spiritual values.

The Commission stressed for this stage subject competence in view of the phenomenal advances made in recent years in scientific knowledge. History, Geography and Civics; and present-day problems will be taught separately with such correlation as is natural and necessary.

Regarding curriculum at the higher secondary stage, the Commission stated : "After the completion of the first ten years of schooling leading to the high school examination, the special interests of the student will have been generally formed, and with a good system of guidance and counselling, he can be helped in the choice of his future career and educational course. An extensive and varied programme of vocational courses will be diversified to enable the students to select for special study a group of any three subjects based on the work already done at the lower secondary stage...The primary object of the new diversification is to provide opportunities in the last two years of schooling for the special academic interests of the students;"

(2) "At the higher primary stage (class V-VIII) the study of a second language will be added to that of the mother tongue; arithmetic skill will develop into the acquisition of more difficult mathematical knowledge; environmental activities will lead to the study of natural and physical science, history, geography and civics; constructive skill will provide the basis for the practice of simple arts and crafts and the practice of healthy living will serve as the foundation for physical education."

(3) "The curriculum at the secondary stage should meet the needs of the adolescents, as well as the needs of the democratic society in which he is expected to participate as a citizen on reaching maturity. The needs of democratic citizenship will require the development of certain skills, aptitudes and qualities of character such as the capacity for clear thinking, the ability to communicate easily with one's fellow-men, the scientific attitude of mind, a sense of true patriotism and an appreciation of the value of productive work. The secondary school curriculum should contain the necessary educational elements for the cultivation of these habits, attitudes and qualities. The needs of adolescence are related not only to the acquisition of knowledge and the promotion of intellectual ability but the fuller development of the physical, emotional, aesthetic and moral aspects of the pupil's personality. Provision has therefore to be made in the curriculum on a more systematic scale than before, for programmes of physical education and subjects like arts, crafts, music, dancing and education in moral and spiritual values."

The Commission suggested the broad areas of curricular studies for the different sub-stages as under :

1. Lower primary stage (Classes I-IV)

- (a) One language—the mother tongue or the regional language,
- (b) Mathematics,
- (c) Study of the Environment (covering science and social studies in Classes III and IV),
- (d) Creative Activities,
- (e) Work-experience and social service,
- (f) Health Education.

2. Higher primary stage (Classes V-VII)

- (a) Two languages (i) the mother tongue or the regional language, and (ii) Hindi or English. (Note : A third language) may be studied on an optional basis.)

secondary and higher secondary levels also there is considerable room for eliminating outdated material from the syllabus such as simplification factorization, the finding of HCF, LCM etc. The approach to teaching of geometry should be changed and axiomatic and systematic treatment adopted. The entire Arithmetic course and also the basic operations in algebra can be completed by the end of the primary stage. 'Set' language may be used in defining the basic terms in geometry and operations with numbers. It is only through the use of 'set' language that a proper integration of arithmetic, algebra and geometry is possible."

About the different programmes of work experience at the different school stages to suit the age and maturity of the pupils, the Commission suggested is under

[1] In the lower classes of primary school work experience may begin as simple handwork the objective being to train children to make use of their hands and thereby help their intellectual and emotional growth

[2] In senior classes, it may take the form of learning a craft which develops technical thinking and creative facilities in the pupils. Even here, some work experience can be provided in real life situations such as work on the farms at the time of harvesting or sowing or in a family production unit

[3] There should be a workshop attached to every school or group of secondary schools. Work experience at the lower secondary school can take the form of workshop training

[4] At the higher secondary stage where the students will be more mature and their numbers will be comparatively smaller work experience should be made available in school workshop and also on farms and in Industrial or Commercial establishments

[5] Implementing the programme of work experience three problems have to be tackled

(a) training of teachers, (b) provision of necessary facilities including supply of equipment, and (c) progressive expansion of the programmes to all schools

[6] The scheme of work experience cannot be introduced simultaneously in all schools and that it will be necessary to prepare a phased programme for implementation but all institutions should be covered under this programme by the end of the fifth plan

The Commission stated that the need for attending to the development of the physical, aesthetic and moral aspects of the adolescent's personality is even greater at the higher secondary stage than early years of adolescence and recommended the following subject pattern for the general stream of the two year higher secondary stage :

1. Any two languages, including, any modern foreign language and any classical language.
2. Any three subjects from the following :-
 - (a) An additional language (b) History (c) Geography (d) Economics
 - (e) Logic (f) Psychology (g) Sociology (h) Art (i) Physics (j) Chemistry
 - (k) Mathematics (l) Biology (m) Geology (n) Home Science
3. Work experience and Social Service
4. Physical Education
5. Art or Craft
6. Education in Moral & Spiritual values.

The Commission, in general, suggested that a good school can have two kinds of curricula at a particular stage or even in a particular class-one being the common curriculum for the pupils who are average in ability, and the other being an advanced curriculum for very bright pupils. Though the Commission opined that (1) Hindi should attain the position of a link language for the entire country as quickly as possible and (2) great emphasis should be laid on making science an important element in the school curriculum, they made it clear that at the higher secondary stage, where diversification of studies will take place, science will not be studied on a compulsory basis by all the students and that those who opt specialization in the subject may take all the three electives from the science group consisting of physics, chemistry, biology, geology and mathematics. The Commission were, thus, not in favour of rigid groupings. They, however, recommended the provision of courses in science at a higher level for the talented students right from the lower secondary stage in selected schools which have adequate staff and laboratory facilities. About Mathematics, the Commission stated that at the secondary and higher secondary levels as well as at the primary level, Mathematics need to be revitalized, reorganised in a more rational manner and brought up-to-date. At the primary stage, "it is most desirable that the course in arithmetic and algebra be integrated and emphasis placed on the laws and principles of mathematics and logical thinking. The syllabus should include development of the number system, systems of numeration and notation, equations, graphs and functions.....At the

campus and in the school hostels, e. g. cleaning of the class room and the school premises, levelling the play ground, preparing and maintaining a school garden, decorating the class rooms and the school, polishing the furniture, whitewashing the walls and painting the doors. Hostel life should as far as possible be based on self help instead of plethora of servants. All these activities will inculcate in the pupils a sense of dignity of manual labour. The Commission laid stress on participation in community development programmes like helping in the maintenance of public sanitation, simple village improvement projects, care of small children and help to the old and the sick. At the higher secondary level, programme of community service at a higher level can be organised. The Commission recommended that each school should draw up and implement its own programme of social service and in liaison with the related departments and agencies set aside about 10 full days in a year for compulsory social service. The Commission, however, observed: 'It is no easy task to organise an effective programme of social service for all the secondary schools in the country. Its implementation should, therefore, be carried out in stages.

To begin with, selected schools of high quality may organise the national service programme on a voluntary basis and to help them, the Department should draw up model plans of social and community services. The training schools and colleges may take a lead in this regard and build up a suitable list of activities for the neighbouring schools. As experience is gained in executing the programme, it may be extended to cover a large number of schools and students." For schools which are not in a position to evolve its own social service programme the Commission recommended labour and social service camps and stated: "For this purpose, a special organisation should be set up in each district under the direct control of district educational officer. It will be the responsibility of this organisation [1] to select one or more specific projects for which students can work all the year round; [2] to provide the necessary community contact; [3] to assist in providing residential arrangements, implements, utensils, etc. and [4] where possible, to provide a part of the expenditure for the entire organisation of the camps ..The cooperation of the Community Development Administration should be sought for the purpose and the project should be connected with the five year plans for the area. During the period of the camp, students would be expected to put in 8 hours of work per day and the general routine would be as follows:

2 hours-personal time in the morning,

2 hours-intellectual work not connected with school studies,

[7] The range of possible activities which can be adopted to provide productive work experience is enormous and choices will be determined mainly on the availability of materials and trained instructors. The list given below is purely indicative and the choice of activities would be made in the light of prevailing local conditions.

Lower Primary School

- Paper cutting
- Card board cutting & folding
- Modelling in clay or plasticine
- Spinning [where natural in environment]
- Simple needle work
- Simple planting indoors or on plots
- Kitchen gardening

Higher Primary School

- 1 Cane & Bamboo work
- 2 Leather work
- 3 pottery
- 4 Needlework
- 5 Weaving
- 6 Gardening
- 7 Model making
- 8 Fretwork
- 9 Work on the farm

Lower Secondary School

- 1 Wood work
- 2 Simple metal work
- 3 Basket work
- 4 Leather work
- 5 Ceramics
- 6 Soap making
- 7 Tinning
- 8 Preserving
- 9 Weaving
- 10 Electrical repairs
- 11 Cookery
- 12 Model making
- 13 Making simple scientific equipment
- 14 Class room decoration
- 15 Carpet making
- 16 Book Binding
- 17 Linocutting
- 18 Basic Printing
- 19 Tailoring
- 20 Toy making
- 21 Millinery
- 22 Wood carving
- 23 Simple firm mechanics
- 24 Animal care
- 25 Crop care
- 26 Care of the Soil
- 27 Workshop practice

Higher Secondary School

Many of the activities listed above would be continued but the emphasis would shift to workshop practice or actual work experience in industrial or commercial concerns or on farms. The activities would be oriented towards productive work. Skills demanded in wood work, metal work and agriculture would be of a higher and more exciting nature.

The Commission recommended that some form of social and national service should be made an integral part of education at all stages and that this could be done by providing for student participation in programmes (i) of communities living on the school campus and (ii) of community development and of national reconstruction. The various opportunities for community work in the class room on the school

strengthened at a few selected centres and research in these fields should be encouraged."

The Commission paid tribute to Gandhi's scheme of basic education, stating "The movement of basic education launched by Mahatma Gandhi more than 25 years ago, proposing a new type of elementary education for the nation which would centre round some form of manual and productive work and have intimate links with the life of community was a landmark in the history of education in India. It was a revolt against the sterile, book centred, examination oriented system of education that had developed along traditional lines during several decades of British rule. It created a national ferment, which may not have transformed the quality of education at the primary stage but which has certainly left its impact on educational thought and practice in a much wider sphere. We believe that the essential elements of the system are fundamentally sound, and that with necessary modifications these can form a part of education, not only at the primary stage but at all stages in our national system. These elements are (1) productive activity in education, (2) correlation of the curriculum with the productive activity and the physical and social environment, and (3) intimate contact between the school and the local community."

As regards guidance and counselling the Commission stated that guidance should be regarded as an integral part of education and not a special psychological or social service which is peripheral to educational services. Guidance services have a much wider scope and function than merely that of assisting students in making educational vocational choices. The aims of the guidance are both adjustive and developmental; it helps the students to make the best possible adjustment to the situations in the educational institutions and in the home and at the same time facilitates the development of all aspects of his personality. The Commission recommended that guidance should begin from the lowest class and last till the 12th year of our educational ladder and thought it necessary that suitable training programmes for this purpose should be included as an integral part of the programmes of our training colleges. Regarding guidance service at the secondary stage the Commission recommended the following:

1. A minimum guidance service should be made available to all secondary schools by having one visiting school counsellor for every ten schools located within a reasonable distance of one another, and by allowing the simpler guidance functions to the teachers.

6 hours-manual work,

2 hours-intellectual work not connected with school studies.

2 hours-personal time in the evening,

8 hours-sleep.

Camps for boys and girls will have to be organised separately, but there need not be much difference between the types of programmes undertaken for them."

Regarding physical education the Commission observed : "There has been a tendency in recent government schemes of physical education to emphasize only the physical fitness value of physical education and ignore its educational values. It must be emphasized that such education contributes not only to physical fitness, but also to physical efficiency, mental alertness and the development of certain qualities like perseverance, team spirit, leadership, obedience to rules, moderation in victory and balance in defeat."

The Commission remarked about educational, social, moral and spiritual values: "A serious defect in the school curriculum is the absence of provision for education in social, moral and spiritual values. In the life of the majority of Indians, religion is a great motivating force and is intimately bound up with the formation of character and inculcation of ethical values. A national system of education that is related to the life, needs and aspirations of the people cannot afford to ignore this purposeful force. We recommend, therefore, that conscious and organisical attempts be made for imparting education in social, moral and spiritual values with the help, wherever possible, of the ethical teachings of great religions."

The Commission strongly recommended art education and stated: "In an age which values discovery and invention, education for creative expression acquires added significance. Unfortunately the fine arts are too often regarded as frills added to 'real' education and are neglected because they are not examination subjects. Adequate facilities for the training of teachers in music and visual arts do not exist. The neglect of the arts in education impoverishes the educational process and leads to a decline of aesthetic tastes and values. We recommend that Government of India should appoint a committee of experts to survey the present situation of art education and explore all possibilities for its extension and systematic development. In this connection we recommend Bal Bhavans in all parts of the country with substantial support from the local community. Art departments at the university level should be

is well with the nation and the people. The Commission stated that Universities have a crucial part to play in the life welfare and strength of a nation. They should owe uncompromising loyalty to certain fundamental values of life. Their principal object is to deepen man's understanding of the universe and of himself in body mind and spirit to disseminate this understanding throughout society and to apply it in the service of mankind. They are the dwelling places of ideas and idealism and expect high standards of conduct and integrity from all its members. With this background the Commission enumerated in broad terms the functions of the universities in the modern world as under:

to seek and cultivate new knowledge to engage vigorously and fearlessly in the pursuit of truth and to interpret old knowledge and beliefs in the light of new needs and discoveries

- to provide the right kind of leadership in all walks of life to identify gifted youths and to help them develop their potential to the full by cultivating physical fitness developing the powers of the mind and cultivating right interests attitudes and moral and intellectual values

- to provide society with competent men and women trained in agriculture arts medicine science and technology and various other professions who will also be cultivated individuals imbued with a sense of social purpose,

to strive to promote equality and social justice and to reduce social and cultural differences through diffusion of education, and

- to foster in the teachers and students and through them in society generally, the attitudes and values needed for developing the good life in individuals and society.

In addition to these broad functions Indian universities will have to shoulder some special responsibilities in the present state of our social and educational development. For instance—

—they must learn to serve the conscience of the nation and from this point of view they should encourage individuality variety and dissent within a climate of tolerance,

—they should develop programmes of adult education in a big way and to that end evolve a widespread network of part time and correspondence courses

—they should assist the schools in their attempt at qualitative self improvement

2. At the same time, in order to demonstrate what a really comprehensive service is like and what it can achieve, it would be desirable to set up comprehensive guidance services in carefully selected schools, preferably one in each district.

3. The necessary staff to inspect and offer consultation to the school workers should be appointed in the State Bureaus of Guidance.

Recommending a sympathetic and imaginative system of supervision and administration which can initiate and accelerate educational reform, the Commission remarked that a rigid bureaucratic approach can stifle all experimentation and creativity and make any educational reconstruction almost impossible. The Commission suggested the following reforms for improving the administration and supervision:

-A common school system of public education should be evolved in place of the present system which divides the management of schools between a large number of agencies whose function is inadequately co-ordinated.

-A nation-wide programme of school improvement should be organised with three objectives: (1) to raise all schools at least to a minimum prescribed level; (b) to assist every school to rise to the highest level of which it is capable; and (c) to raise at least ten percent of the institutions to an optimum standard.

-The offices of the District Educational officers should be strengthened and existing techniques of supervision should be replaced by new methods which emphasize guidance, objective evaluation and provision of extension services.

-The State Institutes of Education should be strengthened.

-State Board of School Education and State Evaluation Organisation should be established at the state level accompanied by the creation of a corresponding machinery at the national level to stimulate a continuous improvement in standards and to assess them periodically.

The Central Government should develop a large programme in the centrally-sponsored sector to assist in the improvement of standards at the school stage."

About the objectives of the Universities, the Commission quoted Pandit Jawaharlal Nehru "A University stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search of truth. It stands for the onward march of the human race towards even higher objectives. If the universities discharge their duties adequately, then it

first class post graduate work and research would be possible and whose standards would be comparable to the best institutions of their type in any part of the world A major university should have a critical mass of students and teachers of outstanding capacity and promise

The Commission also deemed it necessary to establish clusters of advanced centres in the major universities which may add strength to and enrich one another and be specially helpful in promoting interdisciplinary research The major universities should provide teachers of quality to the other universities and to the affiliated colleges

At the higher education stage, the Commission emphasized original thinking in the study in stead of memorizing and recommended that

1 the number of formal classroom and laboratory hours should be somewhat reduced to accommodate independent study assigned reading writing of essays, solving of problems and small research projects

2 every effort should be made to build up good libraries in universities and colleges,

3 the problem of teaching methods in higher education should be considered by the schools of education so that the content quality and methodology of lectures in general can be considerably improved

4 in all teaching universities external examinations should be replaced by a system of internal and continuous evaluation by the teachers themselves and for this university teachers should be oriented to adopt the new and improved techniques of evaluation through a large programme of seminars discussions or workshops, and

5 in universities with affiliated colleges a system of internal assessment should supplement the external examination

The Commission held the view that student services are not merely a welfare activity but constitute an integral part of education These should include orientation for new students health services residential facilities guidance and counselling including vocational placement student activities and student financial aid

About student indiscipline at the higher education level the Commission observed There have been very ugly strikes and demonstrations often without any justification leading to violence walk out from class room and examination halls ticketless travel clashes with the police, burning of buses and cinema houses, and sometimes even manhandling of teachers and university officers

—they should shake off the heavy load of their early tradition which gives a prominent place to examinations and strives to improve standards all round by a symbiotic development of teaching and research; and

—they should create at least a few centres which would be comparable to those of their type in any other part of the world and thus help to bring back to the 'Centre of gravity' of Indian academic life within the country itself.

The Commission noted with anxiety . " There is a general feeling in India that the situation in higher education is unsatisfactory and even alarming in some ways, that the average standards have been falling and that the rapid expansion has resulted in lowering quality. The examination results, the reports of the Public Service Commission, the views of employers and the assessment of teachers themselves, the result of research done all seems to support this conclusion. "What is apparent and really matters is that over a large area of education, the content and quality are inadequate for our present needs and future requirements, and compare unfavourably with the average standards in other educationally advanced countries. What is worse, the large gap between the standards in our country and those in the advanced countries is widening rapidly. The quality of education, therefore, becomes of crucial significance. As the number of jobs and positions to be filled with highly trained persons increases, the discrepancy between the need and the capacity to meet the need is widening. It is obvious that, if higher education is not radically improved, our administration and technical progress, our intellectual standards and social advance will all be most seriously handicapped."

If the University education is going to be functionally useful in the present context, we need a well conceived and comprehensive plan for the development of higher education, spread over the next twenty years, which will include the following three programmes of high priority

—A radical improvement in the quality and standards of higher education and research

—Expansion of higher education to meet the manpower needs of national development and to some extent, the rising social ambitions and expectations of the people, and

—Improvement of university organisation and administration.

The Commission recommended, as one of the important reforms in higher education, the development of some major universities where

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standards At the same time, there has also been a rapid expansion in Arts and Commerce courses at the first degree level, and this has been dictated, not so much by the enrolment capacity of the institutions concerned or the employment opportunities available, but by the pressures of public demand which have increased immensely The effect of this expansion on standards has been even more adverse "

In international comparison it would be wrong to compare our first degrees in arts, commerce or science with the corresponding first degrees of educationally advanced countries What is really comparable is our second, degree in arts commerce and science and first degrees in agriculture, engineering and medicine with the first degrees given by the universities in the educationally advanced countries, where the duration of the first degree course is about the same, irrespective of the fact whether it is a degree in arts science, engineering or medicine Thus, the overall expansion of higher education in India is far too meagre in comparison with that in the more industrialized countries, enrolments in the professional courses particularly in science and agriculture, are extremely inadequate for the needs of our economic development, our system of higher education is more wasteful (lower ratio of output to input) than in countries like the U K or the U S S R and the provision of part time education or correspondence courses which is made on a very large scale in affluent countries like the U K the U S A and the U S S R is conspicuous by its absence in our system of higher education '

As regards future enrolment policy in higher education, the Commission clearly stated that the expansion of facilities in higher education should be planned broadly on the basis of general trends regarding man power needs and employment opportunities and remarked "At present there is an over-production of graduates in arts and commerce because of the adoption of open door policy, and consequently there is a growing incidence of unemployment amongst them On the other hand there is a shortage of professional specialists and there is a consequent need to increase the facilities in professional courses such as agriculture, engineering, medicine etc, and especially at the post graduate stage in science and arts "

According to the Commission the total enrolment in higher education is expected to rise from 195000 to 972000 in 1985 86 or an average annual rate of 8.4 per cent The Commission emphasized the need for reducing the rate of expansion at the undergraduate stage in courses of arts and commerce and highlighted the need for expanding science

There is a variety of causes which has brought about these ugly experiences of uncivilized behaviour, e. g. the uncertain future facing educated young men leading to a sense of frustration which breeds irresponsibility, the mechanical and unsatisfactory nature of many curricular programmes, the totality of inadequate facilities for teaching and learning in the large bulk of institutions; the poor student-teacher contact; the inefficiency and lack of scholarship on the part of many teachers; the absence of imagination and fact combined with firmness on the part of heads of institutions; the prevalence of teacher politics in some colleges and universities; the attempt by political parties to interfere in their work and by no means the least, the impact of conditions of public life in the country, the falling standards of discipline among the adults and a weakening of their civic consciousness and integrity."

In this connection the Commission made the following recommendations:

1. Education should enable young men and women to learn and practise civilized forms of behaviour and to commit themselves to special values of significance.
2. The responsibility for indiscipline taking place is multilateral and no effective solution is possible unless each agency -students, parents, teachers, State Government and political parties does its own duty.
3. Earnest efforts should be made to remove the educational deficiencies that contribute to student unrest and to set up an adequate consultative and administrative machinery to prevent the occurrence of acts of indiscipline.
4. The incentives to positive discipline have to come from opportunities that the institution presents to the intellectual and social demands it makes on the students. A better standard of student services is also necessary.
5. The whole university life should be treated as one and polarization between teachers, students and administration should be avoided.

Regarding the expansion of education in the first three plans, the Commission observed : "One of the important features of educational development in the post independence period has been rapid expansion of the professional education in engineering, medicine and agriculture and of science courses for the first and second degrees. This was necessitated by the programmes for economic development undertaken in the first three plans. By and large, this expansion has outstripped the facilities available (in real terms) and it had an adverse effect on

3 The universities should give considerable autonomy to their departments. The principle that good ideas often originate at the lower level must be recognised and respected in the governance of a university. Wider administrative and financial powers should be delegated to a committee of management to be set up in each Department under the chairmanship of the head of the department.

4 The freedom and autonomy of colleges must be recognised and respected in the same spirit as the university wants it for itself.

5 There should be joint committees of teachers and students in each department and in every college and central committee under the chairmanship of the head of the institution for the discussion of common problems and difficulties. Student representatives should also be associated with the academic councils and the courts of universities.

For affiliated colleges the Commission made the following recommendations:

1 Affiliation of colleges should be granted by the universities after consultation with the State Government has been made.

2 A committee of vice chancellors in the State should be set up to advise the Education Department regarding the grant in aid to affiliated colleges.

3 There should be a council of affiliated colleges in every affiliating university to advise the university on all the matters relating to affiliation of colleges.

4 The existing machinery for the grant of affiliation to colleges and for their periodical inspection should be strengthened.

5 Affiliation should be regarded as a privilege which is to be continually earned and deserved.

6 The UGC may examine the question of a small nucleus staff being sanctioned to each affiliating university for the proper organization of an inspection programme.

7 The most important reform which alone will make it possible to improve affiliated colleges is to relate enrolment to the facilities available.

Regarding the University Grants Commission the Commission suggested as under:

1 All higher education should be regarded as an integrated whole and the UGC should eventually represent the entire spectrum of higher education. For the time being, however, it would be more feasible to

education of quality and for increasing professional education at the undergraduate stage, especially in agriculture, engineering and teaching. The Commission pleaded for selective admissions, a major objective of the policy in selecting students for admission being to secure social justice and to spread the net wide enough to catch all available talent. For the successful implementation of this scheme, the Commission recommended university boards of admissions and Central testing organisation to be set up by the University Grants Commission.

About the college size, the Commission recommended the general policy to encourage the establishment of bigger institutions which tend to be more efficient and economic. "A college should normally have a minimum enrolment of 500 and it would be preferable to raise it to 1000 or more in as many colleges as possible. The Commission was in favour of separate colleges for women at the under-graduate level if there is a local demand and free access of women students to courses in arts, humanities, science and technology. They also recommended courses in home-science, nursing, education and social work which attract a large proportion of girls.

At the post-graduate stage, the Commission held that the bulk of post-graduate and research work has to be concentrated in the universities and their constituent colleges rather than in the affiliated colleges.

Regarding courses at the first degree, the Commission stated that the link between the subjects taken at the school stage and those opted for the first degree should be less rigid than at present and said that it is because of this link that specialization starts undesirably early. At the level of Master's degrees in arts and science, they observed: "There is an urgent need to introduce an element of flexibility and innovation in the organization, of the courses for the Master's degree. Borderline and inter-disciplinary subjects are fast becoming areas of major study and research.

The Commission advocated university autonomy and made following recommendations:

1. The proper sphere of university autonomy lies in the selection of students, the appointment and promotion of teachers and the determination of courses of study, methods of teaching and the selection of areas and problems of research.

2. The representation of the non-academic element on university bodies should be mainly for the purpose of presenting the wider interests of society as a whole but not to impose them.

of education for agriculture will be based on three main elements—research or the development of the appropriate technology, extension or the communication of the technology to practising farmers, and training of the needed personnel."

"If agricultural development is to receive the impetus it needs, education for agriculture must become a major concern of the entire national system of education whose responsibilities go beyond the training of specialized personnel. An orientation towards agriculture must be given in all educational institutions. Further more, the education system must give the training needed to those who will man the supporting services required for agricultural development in order to develop programmes which meet the above needs quickly and effectively and it will be essential among other things—

- to set up a number of agricultural Universities with integrated programmes of research, training and extension;
- to attract talented students, researchers and teachers to agriculture;
- to develop programmes of agricultural research, training and extension in other universities and institutions of higher education;
- to improve agricultural colleges;
- to establish agricultural polytechnics to train agricultural technicians;
- to give a certain orientation to agriculture and rural problems in the education as a whole;
- to develop agricultural extension programmes, and particularly to establish primary extension centres and
- to associate successful and progressive farmers closely with the agricultural universities, colleges, polytechnics and primary extension centres and to give them adequate status and facilities."

On the basis of estimates in the ISI/LSE paper, the agricultural universities will have to train about 2,50,000 to 3,00,000 specialists at the graduate and post graduate levels in a large number of categories some of which are

1. Agriculture (including animal husbandry and veterinary science) for university teachers and executives.
2. Engineering (university and polytechnic teachers and research workers, chemical engineers, irrigation engineers, and hydrologists, mechanical engineers)

set up separate UGC-type organisations for agricultural, engineering and medical education and to create a machinery that would effectively coordinate them.

2. The UGC should consist of 12-15 members; not more than one-third should be officials of Government and at least one third from the universities.

3. The UGC should adopt a practice of working through standing committees set up to deal with important responsibilities entrusted to it.

4. The visiting committees appointed by the UGC should visit each university every three years and work in greater detail and depth.

5. Considerably larger funds should be available to the UGC to enable it to deal effectively with the magnitude and importance of the problems and responsibilities as envisaged.

6. The responsibility of co-ordinating standards should continue to vest in one body, viz. the UGC.

The Commission considered the problem of agricultural education and observed : "Recent events have dramatized the backward state of agricultural development in India. Food production has not kept pace with population growth, rendering us dependent on the surplus production of the other countries to avoid starvation. This is critical enough in itself but it is further compounded by the fact that an under-developed agriculture retards industrialization by its demands on foreign exchange, by its lack of surpluses for industrial exploitation and by the maintenance of a low purchasing power among the masses of the people. . We must attempt at least to double the production of food in the next fifteen years and maintain an adequate rate of growth thereafter. We must change food habits, lessen our depending on the vagaries of the monsoon and the winter rains, and improve the quality of the products of our farms, forests and fisheries and push through a rural improvement programme to transform the life in the villages from one of feudal backwardness into that of modernized communities. These goals can only be achieved through the application of science and technology to the problems of agricultural

and weaving; [36] Mulberry-pests and diseases; [37] Silkworm-improvement; [38] Applied microbiology; [39] General Horticulture; [40] Olericulture; [41] Pomology; [42] Horticulture; [43] Gardening; [44] Landscape Gardening; [45] Forestation practices; [46] Forest conservation; [47] Forestry civil engineering; [48] Forestry Economy; [49] Forestry tree improvement; [50] General forestry; [51] General fisheries; [52] Marine Biology; [53] Oceanology; [54] Climatology and Meteorology; [55] Fishing Craft-construction and maintenance; [56] Navigation; [57] Maritime law; [58] Fishery law; [59] Fishery Practice; [60] Fisheries manufacture; [61] Fisheries micro-biology; [62] Fishing machinery; [63] Cold storage and Refrigeration; [64] processing of fishery products; [65] Wireless communication; [67] Electric Theory; [68] Wood technology; [69] Logging and wood transport; [70] Farm machinery—*principles and Design*; [71] Farm machinery-use and maintenance; [72] Metallurgy, [73] Extension Education; [74] Educational psychology, [75] Rural organisation; [76] Rural Sociology; [77] Cookery; [78] Bakery and flour confectionery; [79] Dietetics; [80] Home management; [81] Millinery; [82] Needle work and Embroidery; [83] Upholstery; [84] Tailoring [85] Weaving, [86] Applied Biology; [87] Applied Chemistry; [88] Applied physics; [89] Applied Mathematics; [90] Statistics; [92] Catering; [93] Human health; [94] Geology; and [95] Soil Science.

C. A sample of certificate course which might be offered in agricultural polytechnics :

- [1] Agricultural workers of various types; [2] Nutsey Assistants;
- [3] Gardeners; [4] Grading, packing, etc. of farm produce; [5] Food and Fruit produce processing; [6] Dairying processing; [7] Fisheries operatives;
- [8] Tractor operatives; [9] Tubewell and other appliance operatives;
- [10] Forestry Assistants; [11] Poultry keepers; [12] Egg Graders and packers; [13] Processing Assistants; [14] Pig husbandry assistants;
- [15] Dressers for live stock; [16] Wool handlers and shearers; [17] Carcase utilization assistants; [18] Laboratory attendants; and [19] Storage Assistants.

Government of India resolved on science policy on 4th March, 1958: "The Wealth and prosperity of a nation depends on the effective utilization of its human and material resources through industrialization. The use of human material to industrialization demands its education in science and training in technical skills. Industry opens up possibilities of great fulfilment of the individual. India's enormous resources of manpower can only become an asset in the modern world, when trained and educated. The Commission, in regard to vocational, technical and

A : Diploma courses : Diploma in [1] Integrated Agriculture; [2] Farm management; [3] Crop husbandry; [4] Crop improvement, [5] Plant protection, [6] Seed production and processing; [7] Soil health and fertility; [8] Laboratory techniques [9] storage of agricultural products; [10] Fruit production; [11] Vegetable production; [12] Gardening; [13] Irrigation and Drainage [14] Agricultural civil engineering; [15] Processing of farm products [16] Processing of Horticulture products [17] Farm machinery-use and maintenance; [18] Poultry-Husbandry; [19] Processing of poultry products; [20] Animal Husbandry; [21] Livestock health [22] Processing of livestock products [23] Dairying; [24] Processing of milk products [25] Refrigeration and cold storage; [26] Forestation practices; [27] Forest conservation; [28] Forest Civil Engineering; [29] Wood technology [30] Carpentry and jointry [31] Forest tree improvement; [32] Fisheries-general; [33] Navigation; [34] Fishing machinery operation and maintenance; [35] Processing of fisheries products; [36] Meteorology; [37] Communication; [38] Agricultural Extension; [39] Education [40] Agricultural Economics; [41] Rural Sociology; [42] Sericulture; [43] Epiculture; [44] Pig husbandry [45] Sheep husbandry; [46] Wool technology [47] Chemistry of farm products; [48] Applied microbiology; [49] Marine engineering. [50] Food technology [51] Food inspection, Analysis and Hygiene [52] Health visiting [53] Nutrition, and [54] Home Science.

B. Different subjects which might be taught in agricultural polytechnics :

Appropriate combination of these might be required to satisfy the requirement of the various courses mentioned above.

[1] General Agriculture; [2] Integrated Agriculture; [3] Soil Health and Soil Fertility [4] Production of field crop [5] Seed production and processing [6] Crop improvement; [7] Farm Management [8] Farm Business; [9] Plant protection diseases; [10] Plant protection-pests; [11] Use and properties of fungicides; [12] Use and properties of pesticides [13] Agricultural surveying and Levelling; [14] Water use in Agriculture; [15] Agricultural construction; [16] Land Reclamation; [17] Processing of Farm produce; [18] Livestock health; [19] Livestock maintenance; [20] Livestock nutrition; [21] Livestock breeding; [22] Poultry maintenance; [23] Poultry Health; [24] Poultry nutrition; [25] Poultry improvement; [26] Pig husbandry; [27] Poultry of Eggs and Poultry products. [28] Protection of Egg and Poultry products; [29] Protection of milk products; [30] Processing of piggery products; [31] Chemistry of Farm Produce; [32] Sericulture-Silkworm Egg production; [33] Sericulture-Mulberry culture; [34] Sericulture-Silk worm diseases; [35] Sericulture-silkreeling

- technicians (diploma holders) both supervisory and higher technicians or technologists,
- engineers (graduates)
- research and design engineers (Post graduates)

Facilities at the lower secondary and higher secondary levels are concerned with the education and training of two groups. Our main recommendation is that by 1986 some 20 percent of all enrolments at the lower secondary level and about 50 percent beyond class V should be in part time or full time vocational professional courses. A strong effort, primarily by the Central Government is needed to encourage boys and girls particularly in the age group 14-18 to follow vocational and technical courses. A concerted and sustained programme by all Ministries and departments is needed to interest parents and children in technical work in vocational courses in making technical careers attractive and in informing public opinion of needs and possibilities. A centrally sponsored scheme of assistance to vocational courses along the lines of the Smith Hughes Act of the USA under which direct subsidies are made from federal funds could give an effective impetus to this programme. Schools themselves should be outward looking to the world of work and organize effective guidance committees at the district level and State levels. It is fundamental in our view that such courses at this stage be predominantly terminal in character.

Regarding the semi skilled and skilled workers the Commission observed: 'Semi skilled and skilled workers are now trained principally in the ITIs of which some 356 exist with a total capacity of 1,13000. In addition facilities exist in technical high schools principally in the areas of the old Bombay State in junior technical High schools (103 with a total potential capacity of 16,000) in artisan training centres (under the Ministry of Community Development) in programmes of khadi and Village Industries Commission in a number of private and Government trades schools and the technical commercial and agricultural streams of multipurpose schools designed to give a vocational bias to the students in preparation for their training as skilled workers.'

The Commission recommended that available places in IITs should be more than doubled in the fourth plan that the courses of study in IITs should be redesigned so as to meet the demands and to give the trainees a broader base of skills and that particular effort should be made to attract boys after the primary school. They also recommended lowering down the minimum age of entry to 14.

The junior technical high schools and the longer-established technical high schools accept children after the primary stage and normally offer a three years course of training which combines general education and technical training including shop practice. However, a study recently conducted by the planning Commissions, shows a high wastage rate in a number of junior technical schools, and the fact that a significant percentage of those passing out do not enter employment but rejoin the educational stream, either in polytechnics or PUC courses. ITI training is superior to the training imparted in junior technical schools. The commission, therefore, recommended that the junior technical schools should be renamed technical high schools and along with the existing technical high schools be unmistakably designed as schools for the training of skilled workers and as such made attractive to students and employers and not to be regarded as poor alternative to general secondary education or as a more costly preparation for entry to polytechnics. The length of courses may vary from course to course, with a strong emphasis on experiences in all these schools. With this change technical high schools with this greater emphasis in general education could be a valuable alternative to ITI's in preparing skilled workers, and to general secondary schools.

Regarding technician training, the Commission observed that the second level of skills which the education system at the secondary level is called upon to provide is the middle level supervisory and technician group. As per the standards followed by the Engineering societies of western Europe and the United States. The following duties are typical of those carried by engineering technicians:

Working on design and development of engineering plant and structure, erecting, drawing, inspecting and testing engineering construction, and equipment, use of surveying instruments operating maintaining repairing engineering services and locating defects therein, activities connected with research development, testing of materials and components, soil engineering, servicing equipment and advising consumers.'

Technicians are in the main trained in three year diploma courses in polytechnics of which there are some 274 [Plus 17 girls' polytechnics] as against 43 in 1947. The Commission observed 'In India many graduate engineers are in fact doing what should be regarded in technicians type work. This is a wasteful use of their skills and an unnecessary charge on training costs. Highly industrialized countries are placing more and more emphasis on the training of middle level

technicians, whose role and status are, unfortunately little appreciated in India... Our 'pyramid of trained manpower is top-heavy. While proportions vary from industry to industry, the ratio adopted in advanced industrialized countries appears to be of the order of 1 : 3 or even 1 : 5 or 6 [a ratio recommended by the 1956 UK white paper on Technical Education in India, the aggregate ratio is to-day one engineer to about 1.4 technicians. This ratio varies from industry to industry and includes certificate as well as diploma holders. Thus, there is not only a strong case, but an urgent need for a much more rapid increase in training facilities at the technician level. The Commission suggested that our over-all immediate goal should be to improve the overall ratio of engineers to technicians to 1 : 2.5 by 1975 and 1 : 3 or 4 by 1986.

The Commission noted that various studies on the amount of wastage in student-enrolling for polytechnical education, for different periods have shown overall range of wastage rates in diploma courses varying between 35.6 percent and 50 percent. The Commission suggested the following immediate steps to correct these weaknesses:

[1] Periodic investigations should be carried out in co-operation with industry, aimed at job analysis specifications in terms of levels and clusters of skills and responsibilities for technicians. Courses should be revised in the light of these determinations, aiming not at producing a lower class engineer but a technician in the terms we have defined;

[2] Diploma training should be made more practical, by including industrial experience, particularly in the last year of training;

[3] polytechnics should be located only in industrial areas, industrial estates or areas specifically designated for development as industrial locations;

[4] Polytechnics located in rural areas should develop courses allied to agriculture for the craftsmen and technicians needed by agro-industries and extension work;

[5] Teachers in polytechnics should not be fresh degree holders from engineering colleges, but should combine good practical experience with academic qualifications. A greater effort should be made to recruit teachers, including diploma holders, from industry. Extensive programme of summer institutes should be organised for the staff of polytechnics. Course for such teachers should also be organised at the regional colleges of engineering and institutes of technology, where the trainees should be given orientation in teaching practice as well as supervised production experience and courses in basic sciences;

[6] Vacations should be used by students and staff to do production work on hand tools, simple machine tools, small lathes, drilling machines, etc. either for equipping secondary schools or for sale;

[7] Since technicians will be called upon to assume semi-managerial roles, their training should also include some introduction to industrial psychology, management, costing and estimation;

[8] For technicians who come up from industry, polytechnics should offer part-time courses, which will require much closer cooperation between polytechnics and industry so as to design courses of study more closely related to industrial needs;

[9] Polytechnical education should be based, on local manpower needs as well as total national needs;

[10] Courses of special interest to girls should be developed in polytechnics. Such courses would include secretarial practice, pharmacy, interior decoration, electronics and radio technology, instrument technology, dress design, commercial art, medical laboratory technology, library science and architecture;

(11) polytechnics should be expanded to the maximum size for maximum utilization of human and material sources;

(12) Adequate staffing should be ensured and frequent turnover of staff should be avoided.

Regarding other vocational courses, the Commission stated that a great range of courses in commercial, scientific and industrial trades can be offered. Terminal courses leading to certificates and diplomas in these areas and in special interest to girls such as domestic science, nutrition nursery, social work etc. can be one, two, three or four years' duration and be offered in schools or special institutions, e.g., for Seamen, extension workers, nurses, distributive trades, commercial art and design etc.)

Arrangements with employers for sandwich courses or for the part-time release of employees [say 2 to 3 hours per week] for training purpose should be worked out and evening, correspondence, and vacation courses should be offered for those who enter employment after class IX or X ..Products of technical high schools, polytechnics and the agricultural polytechnics should be encouraged to think of setting up their own or joining together with others in creating small scale workshops industries or services needed in the community, on a self employed, co-operative or community sponsored basis. The agencies to be involved in the creation of such programmes would be Government [including

armed forces], industry, educational institutions and professional organisations "

The Commission further held the view that the recruitment of well qualified B Sc students in engineering courses specially in subjects such as electronics, instrumentation should be strongly supported and encouraged, with courses suitably adjusted to make up for their inexperience in workshop practice. Such courses should normally be of three years' duration.

As stated by the Commission, the requirements of industrial development, in the successive five years plans make it clear that growing numbers of technical personnel will be specially required in metallurgy, chemical engineering, fuel technology, production engineering, etc for heavy machinery manufacture, machine tools, electrical equipment, metallurgical works, fertilizers, chemical and other manufactured goods. Majority of the existing engineering colleges provide only for the three basic fields civil, mechanical and electrical engineering. In order to relate the courses degree and diploma to the varying types of engineers and technicians required by industry it is necessary to change the traditional pattern and diversify courses in the existing and new institutions to produce the needed technical personnel. In addition, the Commission stressed that colleges and institutes should become much more concerned with the future needs of industry. In order to make this purposeful research design projects should be made a part of the curriculum from the third year. Adequate machinery for continuing revision of syllabuses is needed for which general guidance can be given at the national level by expert committees drawn from industry, teachers and research workers.

About modern needs, the Commission observed "We are entering new fields and introducing more sophisticated processes based on newer technology and applied sciences. For these new needs, many of which must be anticipated some years in advance—courses must also be developed and manpower estimates made. Some of these fields are (1) Electronics, (2) Instrument technology, including automation, (3) Chemical technology, (4) in metallurgy, the processing of raw materials and special alloys, (5) Aeronautics and Astronautics, (6) Nuclear power Generation".

The Commission suggested that teachers should themselves obtain practical experience within industry through vacation works consultancy contracts working with industry in the development and revision of

their courses of study and carrying out research for industry. In addition, wide spread summer institutes for upgrading the knowledge of engineering teachers should be organised. For practising engineers the Commission recommended to make it possible to take post-graduate qualifications in sessions spread over a number of years. In order to attract high quality engineers in teaching and research, salary scales must be adequately attractive.

With a view to meeting the existing shortage of engineering teachers (28.9 percent in colleges and 31.2 percent in polytechnics, the Commission observed that the intake capacity (122) of the technical training programme is too small for our needs and recommended that the institutes of technology should undertake large scale teachers training programmes for graduate and post-graduate students and that the scheme for centres for advanced study should be extended to cover the technological field and that centres in selected subjects be built up on an all-India basis.

As regards equipment, the Commission recommended the timely release of foreign exchange, stock-piling of essential equipment and spare parts, and co-ordinated purchases through one agency. They also suggested that industry and also defence should be approached to loan or gift new or old equipment, or the samples of their product to institutions, both colleges and polytechnics. The Commission stressed attempts to design and manufacture of equipment locally.

The Commission noted that the growth of facilities at post-graduate engineering courses level has been considerable since 1947. The total enrolment in 1965-66 was about 2000 in 41 institutions out of which only 7 offered facilities for post-graduate diploma and Ph.D, with an intake capacity of 125. The old stock of post-graduates in engineering technology was estimated to be around 4000 in 1964. The Commission held the view that admission requirements to post-graduate courses should include at least one year's experience within industry. They suggested that selected institutions should be encouraged to organise, in cooperation with national laboratories, research institutions and industry one or two year post-graduate courses leading to degrees, diplomas in subjects such as industrial engineering, fluid motion technology, rocket technology, materials science, operational research, automation, radar engineering, welding technology, highway and traffic engineering, and instrument technology. Apart from research it should be permissible to obtain a doctorate degree on the basis of professional development and design work within industry.

AN ILLUSTRATIVE LIST OF VOCATIONAL EDUCATION COURSES

I Agriculture and Allied Courses

- [1] Farm Organisation and management, [2] Forestry, [3] Fibre industry, [4] Gur and Khanduri industry, [5] Horticulture [6] Poultry practice, [7] Palm gur industry [8] Spinning and Weaving and [9] Village oil industry

II Art and design

- [1] Architecture, [2] Fashion design [3] Furniture Design, [4] Industrial Design [5] Interior Decoration, [6] Landscape Architecture, [7] Sculpture, and [8] Textile Design

III Business Administration

- [1] Accountancy [2] Advertising [3] Book Keeping, [4] Company and Secretarial Practice, [5] Estate Management, [6] Hospital Administration, [7] Insurance, [8] Industrial foremanship [9] Librarianship, [10] Local Government and public administration, [11] Marketing, [12] Managerial Training, [13] Office management, [14] Personnel management, [15] Salesmanship, [16] Shop Assistants, [17] Window dressing and display, [18] Works management,

IV Food Trades

- [1] Bakery and confectionery, [2] Chocolate making, [3] Food inspection and analysis, [4] Food technology, [5] Milk Pasteurisation, process & distribution [6] Warehousing.

V Health Welfare

- [1] Child care, [2] Dental nurses/assistants, [3] Dispensing assistants, [4] Dispensing opticians, [5] Health visitors, [6] Midwifery, [7] Medical Laboratory technicians, [8] Psychotherapy, [9] Pharmacy, [10] Public Health inspection, [11] Speech therapy

VI Home science

- [1] Cookery, [2] Domestic subjects, [3] Dress making, [4] Home management, [5] Millinery, [6] Needlework and embroidery, [7] Tailoring and [8] Upholstery,

VII Music & Drama

VIII Natural Sciences/Biological Sciences (Elementary)

- (1) Applied Biology (2) (a) Bacteriology (b) Bio chemistry, (c) Botany, (d) Physiology and Zoology (3) Mathematics (4) Computing and statistics (4) Applied physics (5) Other sciences (a) Timber technology and (b) Veterinary sciences

IX. Book Production and Printing :

- (1) Book Production, (2) Book Binding, (3) Electro and Stereotyping (4) Line-composition, (5) Lithographic printing, (6) Monotype (7) Photo-engraving, (8) Photo-lithography, (9) Printing General, (10) Printing warehouse practical.

X. Wholesale and Retail Trades :

- (1) Flower display, (2) Grocery, (3) Meat trade and meat distribution (5) Paper merchandising and (6) Retail management and store keeping.

XI. Leather-based Industries :

- (1) Tannery, (2) Leather goods manufacturing, (3) Footwear, (4) Leather for sports goods, (5) Upholstry leather.

XII. Sports goods Industry ;

XIII. Wood-based industries :

- (1) Boat-Building, (2) Carpentry (3) Doors and windows on commercial bases; (4) Furniture, (5) Handloom and its accessories, (6) Pencil making, (7) Packing cases, (8) Photo frames, (9) Radio cabinets, and (10) Toys.

XIV. Chemical Industries :

- (1) Boot polish manufacture, (2) Bakelite manufacture, (3) Carbon papers and typewriter ribbons, (4) Cattle feed, (5) Ceramics, (6) Cosmetics, (7) Cutlery, (8) Drawing and filter papers, (9) Dyeing, (10) Electroplating (12) Fruit and Vegetable preservation; (13) Food colours; (14) Fish curing (15) Glass toys, (16) Hot dip galvanizing; (17) Low tension porcelain insulators; (18) Matches; (19) Mirrors; (20) Metal polishing, (21) Nylon fishing nets, (22) Plastics, (23) Plaster of Paris, (24) Pigments, (25) Retreading motor tyres, (26) Rubber conveyor transmission belts, (27) Rubber toys, (28) Sealing wax (29) Stoneware jars, (30) Slates, (31) Saltgated sewer pipes, (32) Scientific glass apparatus, (33) Soap making (34) Synthetic textiles, (35) Tin plating, (36) Vacuum flasks, (37) Writing inks manufacture, (38) Water proof packing papers.

XV. Civil Engineering.

- (1) Building, (2) Brick work, (3) Carpentry and joinery, (4) Concrete technology, (5) Costing and estimating, (6) Furnace brick work, (7) Glazing, (8) Heating and ventilating, (9) Plastering, (10) Plumbing and sanitary engineering, (11) Roof slating and tiling, (12) Structural engineering, (12) Town plumbing, (14) Surveying, (15) Wall and floor tiling including mosaic work.

XVI. Electrical Engineering :

(1) Domestic wiring, (2) Domestic electric appliances, (3) Electrical accessories, (4) Electric fans, (5) Electric horns, (6) Fluorescent tubes, (7) Loud speakers, (8) Motor winding (9) Refrigerators servicing, (10) Radio chassis (11) Radio and television servicing, (12) Storage batteries manufacture (18) Small transformers.

XVII. Engineering General :

(1) Agricultural implements, (2) Blacksmithy, (3) Bicycle parts, (4) Drawing Boards and accessories, (5) Fittings (6) Hand tools, (7) Foundry (8) Heat treatment, (9) Instrument engineering, (10) Metalware (11) Motor vehicle servicing, (12) Mechanical toys, (13) Pattern making, (14) Pumps and Pipe fittings, (15) Quarrying, (16) Steel furniture, (17) Sewing machine attachments, (18) Scales manufacture, (19) Sheet metal works, (20) Water meter, (21) Welding.

XVIII. Miscellaneous :

(1) Beekeeping, (2) Cinema and film studio work, (3) Ebony handicraft, (4) Gobar Gas, (5) Goldsmithy and Silversmithy, (6) Hair dressing and allied services, (7) Jewellery manufacture, (8) Laundry and drycleaning work (9) Lime manufacture, (10) Musical instruments, (11) Newar weaving, (12) Pottery, (13) Tobacco processing, (14) Woolen goods, (15) Other personal services, (16) Manufacture of miscellaneous articles of daily use.

Science Education and Research

The basic approach and philosophy underlying the reconstruction of education adopted by the Commission rests on their deep conviction that the progress, welfare and security of the nation depends upon rapid, planned and sustained growth in the quality and extent of education and technology. Science has radically transformed man's material environment. In technically advanced countries the average span of human life has increased by more than a third over the last hundred years.

Science is universal and so can be its benefits. Even more profound is its contribution to culture. Science is liberating and enriching the mind and enlarging the human spirit. Science represents a cumulative and cooperative activity of mankind and its rate of growth is extremely rapid. The doubling period of science, and activities related to it, is some ten to fifteen years. Again, it is the characteristic of expanding science and technology that the time gap between basic discovery and its application is continually diminishing.

Science has added a new dimension to education and to its role in the life of a nation, but central to all this is the quality of education. What we desperately need is improvement in the standard and quality of science education at all levels in the country. Strengthening university science and research must be treated as a fundamental national goal. To achieve quality in science education and research demands serious and sustained effort, full and vigorous government and public support, a relentless pursuit of excellence and above all, it needs determination, hard work and dedication. For strengthening science and research, the Commission recommended the following steps and action-programmes :

—recognition that teaching and research are mutually supporting activities. High quality teaching in science is possible only in a research environment—research is essential for its sustenance,

—basic research should be conducted largely within universities, and to train research workers should be their major responsibility. Laboratories for basic research, unless there be compelling reasons, should not be set up divorced from teaching,

—promotion of effective co-operation (joint research projects, training of post-graduate and research students, exchange of staff, etc) between institution of higher education and national laboratories and industrial and government scientific establishments and organisations,

—Centres of Advanced study ; Development of existing centres and setting up of new Centres and 'Clusters of centres' : The centres should serve as a major source of supply of teachers and researchers to other institutions,

—modernization of curricula : Stress on experimental and field work,

—science education at all levels should be strongly reinforced through study of applications to local environment and industry,

—improvement of laboratories and libraries,

—special attention to gifted students,

—development of laboratory workshops and facilities for servicing, repair and fabrication of scientific apparatus, training of laboratory technicians,

—organisation of courses in interdisciplinary fields, and in subjects of special scientific and industrial importance,

—special attention to development of mathematic studies and research,

—production (on a national basis) of "quality books for undergraduate and post-graduate education,"

—constitution of an effective body to advise government on science policy; including priorities in allocation of funds for different sectors of research,

—national organisation (academy) of scientists, its major role in raising quality of research and of national publications and journals in science and technology, promotion of international relations in science, and

—vigorous and continuing effort to forge strong links between science, technology and production. A high level of science education and research and a strong industrial and agricultural base go together. the three elements in the S. T. P. triad reinforce and accelerate the development of one another.

Recommending selective approach to the problem, the Commission stated that no country, affluent or poor, can afford to squander its resources on institutions which are of indifferent quality and determined to remain stagnant. When resources are scarce and problems formidable, the principle of concentration and selectivity becomes all the more imperative.

In the scientifically advanced countries the cost per student in pure science, in undergraduate and post-graduate courses, is roughly the same as that in engineering and agriculture, while in India the average cost per student in pure science is much less than that for engineering. This is because our science laboratories in general are very poorly equipped and very little attention is paid to practical work and demonstration experiments. For our best we must aim to provide the best education according to international standards. The education of a vast majority of scientists and engineers is not at the level reached by the highly industrialized countries. There should be a most careful selection of subjects for advanced study and research, and selection of the most able students for such courses.

It is unfortunate that India to-day is almost at the bottom end of the ladder of GNP per capita, as also of the ladder of per capita expenditure on education and research. The Indian expenditure on education from primary to higher, and research and development, is about 15 Rs. per capita per year: it is about 3 percent of the GNP, the corresponding figure for the USA is Rs. 2000/- (at 10 percent cost of the GNP). By the end of the century the per capita Indian expenditure,

on education and research, on most optimistic projections, may go upto Rs. 200 per year (at constant price)—this would be as high as nearly ten percent of the per cent of per capita GNP at that time. The corresponding figure for the USA is likely to exceed Rs. 10,000 per year. Thus, the big gap to-day will become far bigger in the coming decades.

In the utilization of our scientific manpower we must strive our utmost to achieve high efficiency—higher even than that of the industrially developed countries, if we can.

If science is to be pursued with full vigour and zest and is to become a mighty force in the Indian renaissance, it must derive its 'nourishment' from our cultural and spiritual heritage and not bypass it. Science must become an integral part of our cultural fabric. In the western world (rather in the northern world), there are people who are seriously perturbed by the imbalance between the growth of science and awareness of the true interest and welfare of mankind as a whole. Knowledge and wisdom, power and compassion, are out of balance. We must guard against this.

In the last decade the US National Science Foundation, as also the Soviet Academy of Science, have made a pioneering contribution towards initiating a 'revolution' in the teaching of science and mathematics. A significant contribution has also been made by the Nuffield Science Foundation which has developed new curriculum materials at the school level. In this context it is important to recognise that science is becoming increasingly complex and abstract. The new developments in physics and mathematics make altogether novel demands on abstraction and conceptualization of nature. Emphasis should, therefore, be laid, from the earliest stage, on proper understanding of the basic principles and the processes of scientific abstraction and creative thinking. Science teaching at all levels has to be creative thinking. The habits of concentration and contemplation should be developed in the pupils. This emphasises the importance of activating and renovating every individual teacher. The magnitude of the problems we face is really immense.

Apart from improving the standard of the post-graduate courses, the postgraduate enrolments in science and mathematics would need to be expanded severalfold in the coming decades to meet the demands of rapidly expanding secondary and higher education and of research and industry. There is always a scarcity of outstanding persons in any profession, and if anything it is more accentuated in science and mathematics. If the centres for advanced study are to fulfil their role

in setting standards of teaching and research and in the training of future teachers, it is essential that the level of the academic staff of the centres is of the highest quality.

The enrolment of science courses, expressed per unit of the total population is the highest in the southern states. The lowest is in the State of Rajasthan. It is about 500 per million of the population as compared to the highest figure of 2200 per million in Kerala. This regional imbalance in science education and even more so in technology is a matter of serious concern. It has a direct effect on pace of individual development.

There is an urgent need in general in revising drastically the undergraduate and post graduate curricula. Stress should be laid on the importance of field work and environmental studies in biological and research sciences. Industrial and agricultural applications of science subjects should be clearly and forcefully brought out and illustrated in terms of local industries and experience accessible to students. A frequent criticism of geological students in our country relates to lack of adequate field training. Adequate time should be devoted to field training in an intensive way. Field training should be continuous over a period of at least two months/year. Agam subjects like geochemistry, geophysics and geomagnetism and economic geology are of great importance in the exploitation of the natural resources. In the field of biology, the study of microorganisms and their role in medicine and agriculture deserves much more attention than is generally the case. It is important that in our physical science departments a proper balance between experimental and theoretical aspects is maintained and urgent attention should be paid to the development of experimental physics and chemistry. In the field of chemistry, studies in areas such as synthetic chemicals, fertilizers, pesticides, chemistry and natural products, petrochemicals and synthetic fibres, pharmaceuticals and dyes, etc., should be more practicalised and in close relation to industry. Astronomy and Astrophysics also deserve special attention.

There should be well equipped workshops in every college and university department of Science. Students should learn the use of workshop tools and get acquainted with some of the essential laboratory techniques and practices e.g. glass blowing, metal work, carpentry, coil-winding, photographic techniques and making of projection slides, soldering and welding electrical circuits and wiring and general maintenance and repair of mechanical and electrical equipment used in laboratories. Students of all science subjects should have some knowledge of the theory of errors, statistical concepts and statistical design of experiments.

It is important to break the prevailing rigidity and deadening uniformity, as also the barriers between departments within the same university. An element of flexibility and innovation in the organization of our courses for master's degree should be introduced. A course in electricity and magnetism, electronics or material science, if given jointly by physicists and engineers can be most stimulating and effective.

Apart from the usual diploma and degree courses, special certificate courses to train precision mechanics, laboratory technicians and other skilled operators could be organised. There is a considerable shortage at present of laboratory mechanics and middle level technicians.

The programme of summer institutes is a major instrument in the country's effort towards the improvement of science education in schools and colleges.

The Commission deplored the import situation of most of the quality books in science and technology even at the undergraduate level. This costs valuable foreign exchange. The country has the talent and other resources to produce first rate books. There should be determination and planned effort. The Commission recommended that the inter-university Board and UGC should take a lead in the matter.

In the modern world, scientific research constitutes fundamental activity of a nation, vital to its progress, intellectual morale and well being. Education and research are not only the fruits but also the seeds of industrial development.

Stating that the current level of expenditure on research and development in India is about one rupee per capita, nearly 0.3 percent of the GNP, the Commission deplored : "India is almost at the bottom end of the 'International ladder' of Research and development effort expressed as a percentage of the GNP. In the industrially advanced countries the growth of investment in research and development, and of manpower engaged in these activities has surpassed all expectations.

To do more science we need more scientists. Investment on research and that on education are inseparable. The total strength of scientists and engineers in India is only a few hundredth of one per cent of the labour force.

The Commission stressed that within the UGC organization an important place should be given to a continuous production of objective information, by the most advanced methods available, on university research and its impact on Indian society. As science in its essential

aspects is universal and supranational, in the formulation of a national research policy and its relation to educational policy it is important to make a systematic study and comparison with developments in other countries and more significantly, in the USSR, the USA, Japan, and the People's Republic of China. In India, there prevails a sort of lack of research atmosphere in the universities, while their counterparts in educationally advanced countries do a very considerable portion of national research work. Engagement in research work is a major pre-condition for creative teaching and stimulation of creativity.

The university staff plays a key role in the development and improvement of the scientific tradition of the country, and in the organization and development of a socially aware and active scientific community. Through individual contacts and through student societies the teachers help to develop scientific traditions and proper norms of behaviour in the students—the scientific community of the future. Scientific societies of staff and students—in university departments and colleges play an important role in promoting research interest and creativity in the youth. The creative scientists and engineers of a country are one of its most precious and also scarce assets. These should be so developed as to generate a maximum 'multiplier effect'. As an ultimate goal every university teacher in India should become a researcher and every university researcher should become a teacher.

We cannot over-stress the importance of mathematics in relation to science, education and research. The new revolution in science based on cybernetics and automation which is likely to be in full swing by the end of the century, may have an impact on men even greater than anything that has happened so far in human history. The cybernetic revolution would give a new importance and role to mathematics. Hence it is imperative that deliberate effort is made to place India on the 'World map of mathematics' within the next two decades or so. Advanced centres of study in mathematics should be established at three or four universities in the next five to ten years. A special effort should be made by the UGC to provide computation installations and training in programming on a selective basis in the universities. The possibility of setting up an advanced centre in the field for the study of computation theory, mathematical logic and numerical analysis may be examined by the UGC.

Scientific research is becoming increasingly complex, expensive and sophisticated, and it makes increasingly new demands on specialized, elaborate and costly equipment and instruments. The universities should perform both pure as well as applied scientific research. To-day with

the advance of science and technology the distinction between pure and applied research-between a research scientist and a research engineer -has become artificial and in several fields (e. g. electronics) it has disappeared. The difference between pure and applied work is one of motivation and goals, and not of techniques and creativity. The problem of industrial research need to be jointly tackled on a co-operative basis by staff in the universities and engineering institutions as well as those working in industry. There should be a movement of staff from universities to industry and vice-versa.

The Commission observed: "University research receives far too small an allocation and if this is not radically corrected, the future of the entire research effort in the country will be in jeopardy ...The more important thing is that in all educationally advanced countries the expenditure on university research constitutes about half of the total expenditure on higher education. Also one half of the time, on an average, of university teacher is devoted to research."

There is a serious shortage of basic literature in science and technology in our libraries. The supply of journals is inadequate and there is a large demand for back volumes of important periodicals.

At present there are a number of institutions in the country which devote almost their entire effort on university type of research but functions outside the university system. These institutions almost invariably (because of personal initiative and other factors) succeed in securing better salaries for their scientists, expensive equipment and generally even more expensive buildings. The real strength of the universities lies in that they combine teaching and research, but they should be provided with adequate facilities for research. Institutions devoted to fundamental research should be linked with the universities. The Commission stated that as a matter of national science policy, the setting up of special facilities and institutions for basic research separate from teaching should be avoided and quoted the late Dr. H. J. Bhabha, "It cannot be disputed that the cost of building the national laboratories on the lines followed by the Council of Scientific and Industrial research has been the weakening of the universities by the drawing away of some of their good people which is their most valuable asset."

A large proportion of research students from some of our leading departments of physics and mathematics go abroad every year; and the same applies to post-graduates in engineering and technology from IIT. Some of our outstanding people are also invited as visiting professors and several are offered appointments for indefinite periods in educational institutions and industry abroad. A considerable proportion of those who

go abroad tend to stay indefinitely and a sizeable number accept foreign nationality This problem of brain drain merits a close and systematic study A person with dominating research interests has a dual loyalty, as it were, to his subject and to his community his nation The first pulls him towards the place where he gets the best climate and opportunities for work and the second pulls him towards his homeland to share and to improve the lot of those amongst whom he was born and nurtured As against this it is to be noted that Japan has hardly any 'brain-drain' problem The Japanese scientists go abroad in large numbers, but they go on deputation and always return to their country We should also follow this example by generous system of fellowship and deputation based on 'bond to return home after study and to serve the country'

National Science Policy

Science policy and decisions concerning science now play such a vital role in the national economy and defence that it is most important for the Governmental authorities at the highest level to ensure that on major scientific issues they can get advice which is as impartial and objective as it possibly can be It is important to have an advisory body which is appropriate for this purpose The membership of such a body should be drawn from the universities research institutions industry and public life The Advisory body should also have on it not only scientists and technologists but also economists and social scientists and persons with experience of industry and management

A fundamental concern of science policy is the relative allocation of priorities with reference to different sectors of scientific efforts, both in terms of subjects and in terms of operating agencies

The Commission recommended that the present Scientific Advisory Committee to the Cabinet be recognised and provided with an effective secretariat with a professional component adequate to its tasks The Committee should be in a position to assess the broad scientific needs of the country including the universities and advise Government on science policy and allocation of total resources between different sectors of scientific activities In determining our priorities for research we should be guided by our national needs and not be unduly influenced by what may happen to be the current fashion in science If space research and nuclear physics are given a high place in a nation's programme of research it will be futile to expect that the young talent will elect agriculture or industrial research

Science Academy

In the scientific life of a country a national organisation or academy of sciences occupies an exceedingly important place. Its role is crucial for the growth of science education and research. In India the role of a national academy is performed partly by the National Institute of Sciences. However, it may need some drastic reorganisation, if the institute is to exercise a vigorous leadership in science and play a more significant role in the scientific activities of the nation. A national academy has also a major function in promoting international relations in science. Such a body represents the country on international scientific organisations such as the International Council of Scientific Unions and its various committees.

Science education and research are crucial to the entire developmental process of the country. The experience of several countries notably the USSR and Japan has shown that it is only on the basis of purposeful science education and research that a stagnant economy can be radically transformed into an industrial economy in a comparatively short time. The highest priority, therefore, has to be given to the improvement in the quality, as also a balanced expansion, of science education and research.

Adult Education

Education does not end with schooling but it is a life-long process. The adult to-day has need of an understanding of the rapidly changing world and the growing complexities of society. Even those who have had the most sophisticated education must continue to learn; the major planks in the strategy of a society which is determined to achieve economic development, social transformation and effective social security should be to educate its citizens to participate in its development programmes willingly, intelligently and efficiently. This is particularly urgent in a society in which masses of people have missed schooling and in which the education given has been irrelevant to the developmental needs....No nation can leave its security only to the police and the army; to a large extent national security depends upon the education of citizens, their knowledge of affairs, their character and sense of discipline and their ability to participate effectively in security measures. Thus viewed, the function of adult education in a democracy is not limited to provide universal literacy but also to provide adult citizen with an opportunity for education of type which he wishes and which he should have for his personal enrichment, professional advancement and effective participation in social and political life, though in

the Indian context 70 percent of the people are unable to read and write and liquidation of illiteracy becomes a matter of immediate national concern.

The scope of adult education is as wide as life itself. Its success depends upon a competent administrative machinery and the support it receives from agencies like universities and public institutions and libraries. An effective programme of adult education in the Indian context should envisage the following:

- liquidation of illiteracy,
- continuing education,
- correspondence courses,
- libraries,
- role of universities to adult education, and
- organization of adult education

Liquidation of Illiteracy

Though the percentage of literacy in India has risen from 16.6 percent in 1951 to 24 percent in 1961 and 28.6 percent in 1966 a faster growth of population has pushed the country further behind in its attempts to reach universal literacy. On the contrary, India was more illiterate in 1961 than in 1951, with an addition of about 36 million illiterates. In 1966 it had 23 million more illiterates than in 1961.

The circumstances of modern life condemn the illiterate to live in inferno existence. The uneducated is not in reality a free citizen. Illiteracy is a mass phenomenon blocks economic and social progress affects economic productivity, population control, national integration and security and improvement in health and sanitation. Illiteracy among the masses is inconsistent with the spirit of the age in which scientific and technical progress determines the way of life and standards of living. We must, therefore, face the problem of illiteracy resolutely and realistically. A nationwide coherent and sustained campaign for liquidation of illiteracy he launched. The campaign should be vigorously supported by the social and political leadership in the country. It should involve the central state and local Governments, all voluntary agencies and private organizations and industries, all educational institutions ranging from the universities to primary schools, and all the educated men and women in the country. The Commission felt that with planned efforts, trained and devoted teachers, public support and material preparedness it should be possible to raise the percentage of literacy to 60 percent by 1971 and to 80 percent by 1976.

The Concept of Literacy

Literacy does not merely mean ability to read and write. It should be functional. It should enable the literate not only to acquire sufficient mastery over the tools of literacy but also to acquire relevant knowledge which will enable him to pursue his own interests and ends, to improve his job skills and living standards, to participate efficiently in civic life, to understand basic human culture and to understand the surrounding world in a better way. Thus viewed, literacy programmes should have three essential ingredients:

1. It must be work-based and aimed at creating attitudes and interests and imparting skills and information which will help a person to do efficiently whatever work he is engaged in.

2. It must help the illiterate to interest himself in vital national problems and to participate effectively in the social and political life of the country.

3. It must impart such skills in reading, writing and arithmetic as would enable him to continue his education either on his own or through other available avenues of informal education.

Literacy programmes will, thus, have three stages. The initial stage will consist of acquaintance with reading, writing and arithmetic and some general knowledge relating to civic and national problems in which the entire society is involved and to the profession in which the learner is engaged. The second stage should deepen the knowledge and skills gained in the initial stage and train the adult in using literacy gained for solving personal problems and enriching personal life. The third stage should lead the adult to one of the programmes of continuing education.

For arresting the swelling of numbers of illiterates, the Commission recommended the following steps:

—expansion of universal schooling of at least five years' duration as rapidly as possible to the age group 6-11.

—providing part time education to those children of the age group 11-14 who either missed schooling or dropped prematurely out of the school; and

—providing part-time general and vocational education to young adults of the age group 15-30 who have received some years of schooling but insufficient to carry them to a stage of permanent literacy or to prepare them adequately for the demands made on them by their environment.

Planning for literacy must reckon with the magnitude and complexity of the situation obtaining in the country

There were according to 1961 census 189 million illiterate adults above 15 in the country

The Commission recommended twofold simultaneous strategy for combating illiteracy

- (1) the selective approach, and
- (2) the mass approach

I The Selective Approach

This approach is specially suited to groups which can be easily identified, controlled and motivated for intensive literacy work. The Commission recommended that

(a) industrial and commercial concerns employ a considerable work force of which about 40 percent are illiterate. All employers in large farms, and commercial, industrial contracting and other concerns should be made responsible if necessary by law, for making their illiterate employees functionally literate within a stipulated period. Government should bear all educational costs and supply the teachers, books and other teaching materials,

(b) the big industrial plants in the public sector should take the lead,

(c) every development project in whatever field—industrial, agricultural, commercial, health, education or any other should include, as an integral part, a plan for the education of its illiterate employees,

(d) a series of schemes are launched by government for economic betterment of the people for social welfare. For instance the khadi production scheme of the khadi and village industries Commission or the scheme of applied nutrition and child welfare programmes of the Community Development Department involve several lakhs of women. Literacy programmes should constitute an essential ingredient of all such schemes.

II The Mass Approach

The essence of mass approach lies in a determined mobilization of all available educated men and women in the country to constitute a force to combat illiteracy and effectively organization and utilization of this force in a well planned literacy campaign. The mass approach was

a remarkable success in the USSR. In a different and on a smaller scale this approach was attempted in Maharashtra through the scheme of Gram Shikshan Mohim, which exploited the local village patriotism to eliminate illiteracy from villages and required the teachers and all local educated men and women to work for literacy. The Scheme cost very little and gains were much more than what could be measured in terms of literacy.

Adult education is by nature a voluntary activity; the basic driving force is the motivation of the adult. The responsibility for initiating a massive move to combat illiteracy rests squarely on the political and social leadership of the country. If the nation is determined to make the effort and sacrifice commensurate with the undertaking, India can become a literate nation within a foreseeable future. Besides social intelligentia and teachers of all stages, the students of all stages from upper primary onwards should be required to teach adults as a part of the compulsory national service programme.

The New Function of the School

The new responsibility related to adult education will imply a significant change in the function and outlook of the school. The area of its main concern will not be confined to the school children; it will embrace the entire local community it serves. It should function as a centre of the life of the community. It will need to be transformed from the children's school to a people's school. It should serve as a community Centre and an important base for extension services. It should be equipped with a library, exhibits, posters and other materials necessary for adult education.

Literacy for Women

The state of literacy among women is particularly distressing. The Census of 1961 showed that 34.5 percent of the women in Urban Areas and 8.9 percent of them in rural areas were literate. Unless women become educated, there is little hope for social transformation. The urgency of initiating bold, imaginative and effective measures for stepping up literacy among women, particularly those in rural areas cannot be too emphasized. We must pass over the following hurdles in the way.

1. the motivation to learn among women is weak;
2. the social environment tends to be hostile for organizing literacy campaigns among women;

3. the women themselves have little leisure and they cannot count on hours when they will be free to learn.
4. the most difficult problem is to find teachers for women.

More and more teachers should be appointed in schools and they should be made responsible for teaching illiterate women in their areas. Appointment in the village of 'Village Sisters' for organising adult education among women will be functionally more useful and less costly. In the urban areas, it should be possible to utilize Government pensioners for literacy work among women.

Mass Media

Fullest exploitation of mass media of communication and films and other audio-visual aids should be ensured to eradicate illiteracy. The mass media of communication should be effectively used as a powerful instrument for creating the climate and imparting knowledge and skills necessary for improving the quality of work and standard of life of the people. The role of radio and television in this field can never be over-emphasized. Planning for literacy and adult education programmes must include preparation of a variety of materials. The most important material consists of text books and other books for the neo-literates and a variety of other literature such as newsletters, magazines and pamphlets containing useful information relating to some aspects of agriculture or science or craft or any other matter of interest to the adult. Equally useful is the preparation of guide-books and production of books for the vast army of volunteer-teachers. It is also necessary to prepare charts, maps, models, films, filmstrips and a vast variety of other audio visual aids.

Continuing Education

In conditions of rapid change and advancing knowledge, man must continue to learn in order to live a full life. Learning is the way of civilized living. The principle is now well recognised that a modern system of education does not merely provide wide-spread full time education of different types and at different levels; it includes a wide range of courses and forms of instruction which an adult outside the full time school system needs for his personal, professional, social and other interests. Thus conceived, continuing education "becomes the growing and the harvest for which formal schooling is only the planting and the cultivation." Adult education must be designed to serve a great variety of purposes and different groups which vary not only according to their occupational interests, cultural aspirations and

sensitiveness to responsibilities in public affairs. Adult education must be tailored to suit all tastes and needs. The Commission, thus, suggested the creation of a parallel system of education for those who can attend educational institutions only during a few hours they can spare in the evening or at other convenient times in order to enable them to qualify for the same certificates, diplomas and degrees as those for which the regular students in the educational institutions work. Educational institutions should also organize adhoc short courses to help people to understand and solve their problems and to acquire wider knowledge and experience. Further education should be provided for workers for improving their knowledge and skills, widening their horizon in life, including in them a sense of responsibility towards their profession and improving their careers. Special part-time and sandwich courses should be offered for them which would lead them step by step to higher course. Industrial plants in the public sector should also take the lead in organizing classes for workers and encouraging them to work for these examinations.

Organization of part-time courses for adults bring added responsibilities to the educational institutions and it is obviously the responsibility of Central and State Governments to ensure that the institutions have the necessary requisites to discharge these new functions.

Correspondence Courses

There must be a method of taking education to the millions who depend upon their own effort to study whenever they find time to do so. Correspondence or home-study courses provide the right answer for these situations. This is a well tried and tested technique. In correspondence study the adult has a strong motivation to learn. The method also establishes a personal and private relationship with the teacher which encourages discussion and understanding through written communication thereby ensuring relevancy and precision. The teachers and the taught meet occasionally and participate in specially devised programmes which include lectures, seminars and group discussions. Correspondence or home-study courses which are sequenced in accordance with the principles of programmed learning are of enormous benefit in certain fields of education. Correspondence courses should be supported by well coordinated radio and television programmes. Good correspondence courses in thoughtfully identified fields of service will create demand for themselves and can help participation by the people in introducing better methods of production.

The Commission recommended establishment of a National Council of Home Studies by the Central Government. The Council should be authorized to assume many functions including accreditation and evaluation of agencies. It should identify areas in which different types of correspondence courses would be of benefit and establish them on their own or assist Government departments, universities, Boards of education, institutions of technical education and private agencies to create them. It should also carry out continuous evaluation of the various programmes of education through correspondence.

The Role of Universities

The image of the university as a closed academic community of scholars creating and disseminating knowledge and perpetuating its own type is a thing of the past. The walls which divide the gown and the town have crumbled and the life of the university will that of the community should be vitally linked for their mutual enrichment. This change of attitude is noticed in a marked way in some of our universities which have organised correspondence courses, extension lectures and seminars for the benefit of extra-mural students.

The function of the university is to help the social, economic, educational and cultural growth of the community which it serves. One significant way in which it can give a lead is to communicate to the people the new scientific findings and new thinking on social and economic problems. Similarly, universities can effectively undertake a variety of programmes for re-education of the key personnel of the different professions. In this context a special mention of re-education of the teachers is relevant.

Universities should organize social camps and adopt villages for intensive programmes for development and eradication of illiteracy as well as for maintenance of schools and other similar social services, the improvement of agriculture, local industries and working of cooperatives. The universities should have an efficient machinery for launching carefully planned adult education programmes and for evaluating achievements. A Board of Adult Education should be set up in each university.

National Board of Adult Education

The Commission recommended establishment of a National Board of adult Education by the Ministry of Education with the following functions:

1. To advise Governments, at the Centre and in the States, on all matters relating to informal adult education and training to draw up plans and programmes for their consideration,
2. To promote the establishment, where needed, of agencies and services for the production of literature and other teaching material and for the needed training programmes.
3. To ensure co-ordination among different ministries and official and non-official agencies;
4. To review from time to time the progress made to formulate suggestions for change and improvement; and
5. To promote research, investigation and evaluation.

The Commission recommended that similar bodies should be set up at state level, with committees at district level acting as wings of Zila parishad or Zila panchayat.

Educational Planning & Administration

According to the Commission the crux of the problem of educational planning in India is to evolve a national policy in education although education is largely a state subject in the constitution. Instead of over-emphasis on enrolment and expenditure, there is a need to take a more comprehensive view of the problem and to evolve a broader pattern of goals, especially those relating to qualitative improvement. The policy of spreading meagre resources available thinly over a very large area, involves considerable wastage. We should rather concentrate on a few crucial programmes such as, improvement of the quality of teachers, development of agricultural education, provision of good and effective primary education for all children, liquidation of illiteracy, vocationalization of secondary education, establishment of major universities, expansion and improvement of post-graduate education, increase in the number of scholarships and the development of institutions at each stage to optimum levels of quality production of literature in modern Indian languages, educational research, examination reform, reform of school text-books and teaching and learning materials, education of teachers and supervisors, improving contact with the local communities and parents; providing curriculum programmes and guidance to gifted students and some assistance to retarded or backward ones should be emphasized. Such programmes do not require heavy financial investment. It is also necessary to evaluate our programme continuously and develop a strong research programme, which will enable us to cut down cost and increase the effectiveness of investment in education.

Education must increasingly become a national concern and the Central Govt. should take the following responsibilities :

- improvement of teacher status and teacher education.
- manpower planning in crucial sectors like agriculture, engineering, medicine etc.
- ...the development of a programme of scholarships.
- the equalization of educational opportunities with special reference to the reduction of inter-state differences and the advancement of the weaker sections of the community;
- the provision of free and compulsory education as directed by the constitution;
- the vocationalization of secondary education.
- the improvement of standards of education.
- the development of higher education and research with special reference to the post graduate stage;
- the development of professional education in agriculture and industry.
- the promotion of scientific research, and the promotion of educational research.

Central Government should provide financial assistance in three forms :

1. Grants-in-aid including transfer of revenues made to the State Governments on account of their committed expenditure, through the quinquennial Finance Commissions;
2. Grants-in-aid for developmental expenditure given for the plan as a whole, through the planning commission; and
3. Expansion of the Central and the centrally sponsored sectors.

Educational Administration at the National Level

The agencies at the national level concerned with the development of education are the Ministry of Education, The University Grants Commission and the National Council of Educational Research and Training. The other bodies which have impact on educational development are Central Advisory Board of Education, All India Council of Technical Education, etc. The N C E R T has to play key-role in promoting qualitative improvement in school education.

Educational Administration at State Level

The State Education departments are the principal agency to prepare and implement educational plans. Their structure, designed

during the British period for very limited purposes, continues to be substantially unchanged even to this date.

Co-ordination is very often an administrative bottle-neck at the State level because educational programmes are spread over a number of departments at present. These should be properly co-ordinated. The Directorate of Education at State level is not competent to achieve this co-ordination.

The commission recommended a statutory council of education under the chairmanship of the State Minister of Education and suggested that its membership should consist of representatives of universities, all directors in charge of different sectors of education and some eminent educationists. Its principal functions should be to advise State Govt. on all matters relating to school education. Its annual report, along with its recommendations, should be presented to the State legislature.

The Commission also recommended a standing committee at the officers level in the State

The Commission observed that the Directorates have grown big and there is not enough delegation of powers to the district level and that the time of the Director of Education is so taken up with personnel administration and trivial details that he has no time for his principal responsibilities of providing leadership in educational development

According to the Commission, "Administration is essentially a matter of faith, and vision, bold and courageous leadership, and proper handling of human relations. The importance of securing the right type of personnel for it cannot, therefore, be over-emphasized."

The Commission advocated Indian Educational Service or IES as a step in the right direction and stated : "If organised on proper lines, such a service would help the progress of education " and suggested that the service should encadre the following posts :

- All posts of Directors, Additional Directors, Joint Directors etc; District Education officers;
- All gazetted advisory posts in the Ministry of Education;
- Suitable posts in the NCERT;
- All gazetted posts dealing with educational programmes in other Ministries of the Government of India;
- Suitable gazetted posts in the Education Department of the Union Territories; and

-Suitable posts of Principals of higher secondary schools under the scheme of Central schools.

The commission recommended training for educational administrators and also the National Staff College for Educational Administrators to provide in-service training to educational administrators.

The Commission criticized that the existing procedures in educational administration suffers from an excessive emphasis on uniformity and rigidity, and recommended elasticity and dynamism and change in attitude of the educational administrator and inter-state contacts to encourage comparative studies in different state practices in all administrative matters. The Commission also recommended the modern 'Officer-oriented' system where most of the work will be done by officers at their own level with the help of a small secretariat staff.

In time, the Commission recommended that education should be given a statutory basis everywhere and in all sectors and that an Education Act should be passed in all states and union territories. The possibilities of passing a National Education Act also was recommended.

Educational Finance

The Commission deplored the fact that the proportion of national income devoted to education in India is small in comparison with that in educationally advanced countries of the world. The absolute amount per capita spent by us on education is about one hundredth of that spent by a highly industrialized country like U.S.A. This reflects the close interaction and interlocking between the level of education and the level of industrialization. Japan, USA and USSR are spending considerably more than 6 per cent of their GNP on education-about twice as much as India.

The increase in educational expenditure (3 per cent of GNP) has been much faster than that of the growth of economy. The growth in per capita income between 1950-51 and 1964-65 was only 2.2 per cent per year. The national economy has grown at 5.4 per cent per year during the first three plans while educational expenditure has grown at the rate of 11.7 per cent per year at current prices (1964-68).

The present position (1964-66) is that about one third of the total expenditure is devoted to the first level education; another one third is devoted to the second level and to the indirect expenditure on school education; and the remaining one third is devoted to higher education. Government contributes to 71.2 per cent of the total expenditure and

the rest is contributed by other sources which include endowments donations and other voluntary popular contributions Attempts should be made to involve local communities to contribute more and more funds for education and to reduce burden on Governments

The Commission made two alternative assumptions for the next two decades

(1) If national income grew as 5 per cent per year population at 2.5 per cent per year and 4 per cent of national income were allocated to education the expenditure on education in 1985-86 would be only Rs 27.5 per capita

(2) If national income grew at 7 percent per year population at 1.5 per cent per year and 6 per cent of the national income were allocated to education the expenditure on education in 1985-86 would be as high as Rs 75.1 per capita.

The Commission recommended action on two lines. The first is that we should strive to allocate¹ the largest portion of GNP possible to educational development. Since additional resources are generated largely through the process of economic growth the fact that education tends to augment the flow of national product though with some time lag is of crucial importance. It follows therefore that in the long run education to some extent is self financing because the increased incomes generated by a relatively better educated labour force would provide resources for greater allocations to education. The second is need to realise that it is impossible to create an educational system which would meet the individual and national needs if conventional techniques, existing practices of under utilization and wastage were to continue. It would, therefore be necessary to make every rupee go the longest way possible by adopting measures for economy for reduction of wastage and for intensive utilization.

The Commission recommended the following measures to achieve utmost economy

1 The utmost economy possible should be practised in the construction of buildings

2 The cost of equipment should be reduced considerably by better designing large scale production improvisation and careful handling to increase its life

3 Techniques in which certain facilities could be shared in common by a group of schools (e.g. library costly equipments and laboratory apparatus) should be encouraged on a large scale

Education in Advanced & Semi-Advanced Countries

EDUCATION IN ADVANCED & SEMI-ADVANCED COUNTRIES

Education in Britain

The aim of the State system of Education in Britain is to provide a comprehensive Service for all who can profit from it: 'to secure for children a happier childhood, and a better start in life; to ensure a fuller measure of educational opportunity for young people and to provide means for all of developing the various talents with which they all are endowed and so enriching the inheritance of the country whose citizens they are.'

Amongst the most notable features of the system are the large number participating (some 95 percent of school children are at publicly maintained or assisted schools), the freedom of teacher from official direction, the decentralisation of its administration, the prominent part played by voluntary agencies, the academic autonomy of the universities and the system of financial support for students in higher education.

It has also been a rapidly expanding system, due partly to the rising population, but also to the provision of more nursery education, to the rising of the minimum school learning age from 15 to 16 in 1972 and to the greater number of young people staying voluntarily at school after the age of 16 or going to further education.

The system in England and Wales is now governed by the Education Act 1944, which aimed to widen and improve educational opportunities at every stage.

The Education Act 1902 introduced for the first time a co-ordinated national system of Education, and with its emphasis on local administration, is still the basis of much of the educational system. The elected councils of counties, counties boroughs, boroughs and urban districts (created at the end of the nineteenth century) were constituted as local education authorities.

A report of the Central Advisory Council for Education (England) under the Chairmanship of Lady Plowden was published in 1967. Its proposal which is being increasingly adopted by local authorities is for a new structure of primary education composed of a three year infant and a four year junior course involving the establishment of 'middle' schools which children can enter at the age of 8 and leave at 12, the age, it was considered, when Secondary education should begin. In 1974 the Government announced its policy of developing a fully comprehensive system of secondary education in maintained and assisted schools.

in England and Wales and of ending selection according to ability for different types of Secondary schools (Grammar, Technical and Modern schools) at the age of 11 or at any other stage.

Assistance to disadvantaged children was a major aspect of some of the Government plans contained in the white paper on education published in 1972. It set out a ten year programme for development at all levels of education in England and Wales and for universities throughout Great Britain. The proposals involve substantially increased expenditure in five sectors : a new programme of nursery education, with priority in the allocation of capital resources between 1974-76 being given to local education authorities with large areas of social deprivation; a larger building programme for renewal of primary and secondary schools and also for special schools to provide more special school places for certain children with handicaps; a large teaching force to improve further the staffing standards in schools; new measures to improve the pre-service and in-service training of teachers and the development in higher education for a wider range of opportunities for both the students and institutions.

Higher and Further Education

Higher education covers courses of all kinds which lead, on successful completion to at least a first degree, or a qualification accepted as equivalent to a degree; full time (and sandwich) courses leading to other advanced qualifications, including those below degree level such as the Higher National Diploma; or a Certificate giving status as qualified teachers.

Further education has a wider scope and includes post-school education of all kinds and at whatever level but outside the universities and colleges of education. It includes the youth service and adult education and is extremely wide-ranging in the variety and level of courses provided. Full-time (and sandwich) courses taken in various types of colleges of further education that lead to degree or other advanced qualifications constitute part of higher education.

At present universities deal with graduate and post-graduate studies including post-graduate courses for graduates who wish to teach. Further education colleges offer the widest possible range of courses below advanced level.

Technical education is provided at many levels. "Technical" usually implies a practical element of some kind, particularly in engineering. Many of the further education colleges specialise in technical education

and a number of them are for historical reasons called technical colleges. Advanced courses have been concentrated in 30 polytechnics mainly from existing further education colleges.

The open university, which began its first courses in 1971, is a recent addition to the opportunities available for advanced education. The University is non-residential and no formal qualifications are required for entry.

Administration and Finance

Administration of the public system of primary, secondary and further education is divided between Central Government, local education authorities, and various voluntary organisations. Relations between these three groups are based on consultation and co-operation, both by direct contact between the parties and through Her Majesty's Inspectors, whose duties enable them to act as liaison officers between local education authorities and the Central departments. The universities are self-governing and, except for the open university, their relations with the Government are conducted through the Universities Grants Committee, which was set up in 1919 with the function to advise the Government on university finance and to administer Government Grants.

The Department, controlled by the Secretary of State for Education and Science does not run schools or colleges or engage teachers, or prescribe text-books or curricula, but it does, for example, set minimum standards of educational provision, control the distribution and nature of educational buildings; control teacher-training and supply and determine the principles governing recognition of teachers as qualified; administer negotiated salary scales and a superannuation scheme for teachers, support some research at all levels within the education service, through the agency of the National Foundation for Educational Research, university departments and other bodies, support financially by direct grant a limited number of institutions of a special kind; and settle disputes, for example, between a parent and a local educational authority or between a local education authority and the managers of a school.

It is also a feature of the education system that responsibility for it is so widely distributed that decisions reached centrally are made with the benefit of advice from many sources. These include Her Majesty's Inspectors standing and ad-hoc committees, professional associations and voluntary bodies. The Inspectors, of whom there are about 500 in

England and Wales, give professional advice to the department, conduct courses for serving teachers and prepare advisory pamphlets.

Two non-statutory Committees are concerned with specific aspects of the education service: the National Advisory Council on Education for Industry and Commerce and the National Advisory Council on Art Education.

A number of independent bodies have an important influence on the educational system. One of these is the Schools Council for Curriculum and Examinations, established by the Secretary of State for Education and Science in 1964. Among others are the Council for Educational Advance, which developed from the non-political campaign for Education in 1963; the Advisory Centre for Education which provides with professional assistance, an educational information service and has established the Careers Research and Advisory Centre, and at school level, the parent teacher associations which are linked nationally through the national Federation of parent-teacher Association, founded in 1956.

Local authorities disburse the greatest proportion of the total expenditure on public education. Direct grants are made by the Department of Education and Science to direct-grant schools, some voluntary schools, non-maintained special schools, some further education establishments, voluntary colleges of education and voluntary youth organisations. The Department also finances universities and colleges through the university Grants committee and provides direct grants to the open university. Other direct expenditure by the Department includes awards to students, research and administration.

Schools

Parents are required by law to ensure that their children receive efficient full-time education at school or elsewhere between the age 5 and 16.

Out of 33,200 schools, 30,000 are publicly maintained or assisted and are attended by some 94 percent of the 9 million school-going children. The majority of the independent secondary schools are for boys only or for girls only, and many are boarding schools.

In the maintained sector, children may attend nursery schools or classes from 2 or 3 to 5, infant schools from 5 to 7, junior schools from 7 to 11 and secondary schools from 11 to 16, possibly upto 19. An increasing number of local authorities in England are also establishing 'first' schools for pupils aged 5 to 8 or 10, and 'middle' schools

for pupils aged 8 or 9 to 12 or 13 and 10 to 14. In the independent sector transfer from primary to secondary education takes place at 13; children can attend nursery schools and kindergartens from 2 to 5, and those going to 'public' schools usually attend pre-preparatory schools from 5 to 8 and preparatory schools from 8 to 13.

The average size of classes as registered is 33.3 in maintained primary schools and in maintained secondary schools the average size of class is 22.7. The white paper on Education, published in 1972 published a new target of pupil teacher ratio of 18.5 in 1981.

Although examination pressures force a certain amount of uniformity, head teachers are free within limits to organise schools according to their own ideas. Teachers are not bound by official instructions on syllabuses, text-books and teaching methods.

Primary Education

Schooling becomes compulsory for children at the age of five. primary education usually lasts until the age of 11.

Nursery education is provided to the children from the age of two in nursery schools, or from the age of three in nursery classes attached to infant schools. The staff is qualified. There are no formal lessons, but indoor and outdoor play is guided by the teachers using a great variety of materials. The intention is to develop children physically, emotionally and educationally. Buildings and equipments are specially designed to meet the needs of small children.

Primary schools cater for pupils between the age of 5 and 11 (or if there is a nursery class, 3 and 11). Where the annual admissions amount to two or more classes the course is usually divided between separate infant (5-7 years) and junior (7-11 years) departments of the same primary school, or between separate infant or junior schools.

At infant schools, opportunities are provided for experimenting with such materials as sand, water, clay, paint and wood; building with bricks and boxes; imaginative play; stories and music. These activities are linked, where suitable, with reading, writing, and simple arithmetic, the aim being to stimulate an interest in books as sources of information and pleasure, and in mathematical concepts, and to encourage fluency in oral and written expression.

The Junior school, taking children from about 7 or 8 is at its best, characterised by an atmosphere in which experiment and inquiry beyond the bounds of conventional subjects is encouraged. English, French,

Science, Mathematics and environmental studies are taught; Other prominent features of the junior school curriculum include physical education, drama and art.

Secondary Education

There were three types of secondary schools, known as 'grammar', modern and 'technical' schools. At the time of 1944 Act there were a few local education authorities including London, Bristol and Coventry, who were against the idea of selective education and who, when building new schools, established them as comprehensive schools. They are non-selective and provide all types of education for all or most of the children in a district, from the least to the most intellectually able and usually covering the full secondary age-range of 11 to 18. The new Government which took office in 1974, however, announced its intention of developing a fuller comprehensive system of Secondary education in maintained and assisted schools and of ending selection according to ability for different types of Secondary school at the age of 11 or at any other stage. Several forms of comprehensive schooling are now in operation: the system of orthodox comprehensive schools with an average of 11 to 18; 'two-tier' system with all pupils transferring at 11 to junior comprehensive schools and at 13 or 14 to Senior comprehensive schools; and comprehensive schools with an age-range of 11 to 16, combined with sixth form colleges for pupils over 16. Particularly since the publication of the Plowden Report, a number of authorities have planned or established middle school spanning the primary and Secondary age ranges under this system pupils transfer from primary schools at the age of 8 or 9 to middle schools with an age range of 8 to 12, 13 or 14 to 18. There are a number of other schools outside the categories of grammar, secondary, modern, technical and comprehensive. Apart from reading, writing, arithmetic, history, geography, religious instruction, art, music, cooking, needlework and physical education, some have provided courses with a vocational bias such as rural science seamanship, short-hand and typing.

As well as most of the above non-vocational subjects, grammar schools usually offer a choice of three or four modern languages, Latin and sometimes Greek, and a range of mathematics and science subjects. Some offer engineering, architecture, economics and commercial subjects. Recent curriculum development projects have included integral science, integration of humanities, history, geography, moral education, mathematics and careers education and guidance.

Secondary School Examinations

Although there is no national leaving examination, secondary school pupils (and others) may take the General Certificate of Education (GCE) or the Certificate of Secondary Education (CSE). The GCE examinations are conducted by eight independent examining bodies, most of which are connected with universities. These examinations are set at two levels, Ordinary (O) and Advanced (A). The O-level papers are usually taken at the end of a five year course in a secondary school. A-level papers are usually taken after a further two years' study in the sixth form (the highest class in secondary education). The A-level results are used to assess candidates by most universities other than Oxford and Cambridge, whose colleges set their own entrance papers. There are no compulsory subjects at either level and candidates may take as many or as few subjects and as many times as they wish. They do not need to take the same subject at both O and A levels. A candidate who fails to gain a pass at A-level may be awarded an O-level pass on his A-level paper.

At A-level, passes are awarded in five grades: A, B, C, D and E. In addition A-level candidates may take special (S) papers which are normally set on the same syllabus as the basic A-level papers but contain questions of a more searching kind. Only candidates whose basic A-level papers are graded A, B or C are eligible to have their work on S-papers taken into account. These candidates may be given a supplementary grading of 'distinction' or 'merit' based on their performance on the S-papers. Candidates are not normally expected to take S-papers in more than one subject and are not allowed to take them in more than two.

The examinations are open to any suitable candidates whether they are attending school or not. The normal minimum age of entry is 16 although candidates may be entered earlier if their Head Master or Head-Mistress certifies that this is educationally desirable and that they are likely to be successful.

There is no upper age limit. There are some 180 subjects to choose from at O-level and about 180 at A-level. Besides the normal academic subjects, they include art, music, handicraft, domestic, technical and commercial subjects.

In 1965, the Certificate of Secondary Education (CSE) was introduced. The CSE, like G. C. E. is on a single-subject basis and can be examined in a number of ways, but is in all cases controlled by serving teachers, represented on the 14 regional examining boards.

National Certificates (HNC) and two or three year higher national diplomas administered in the same way as ordinary National Certificates and ordinary National Diplomas in a wide range of technical subjects and business studies. Students may also take full time or part time courses leading to the qualifications of professional bodies. HNCs and HNDs are gradually to be replaced by awards of the new Technicians and Business Education councils. Further education students can take the external degree of the university of London and the degrees of the Council for National Academic Awards (CNAA). Most of the students taking CNAA degree are in the polytechnics which cater especially for those with an interest in industry and commerce. At the beginning of the academic year 1973-74, there were 508 CNAA first-degree courses and 71 post-graduate courses being provided by 51 colleges (7 in Scotland). Out of a total of nearly 38130 students for the first degree just over half the students followed scientific or technological studies, with art and social science courses forming an increasing proportion.

An increasing number of polytechnics are offering 'modular' degrees. These enable students to choose a number of courses (or modules) that relate either to a single subject and thus to specialization in a well-defined area of study, or to a combination of courses which, taken together, constitute a broader, more generalised education. The modular degree thus provided more flexibility and greater opportunities for assessment of students as well as a wider choice of courses for students.

A further Education Information service operates during the summer to assist school-leavers who have obtained Advanced level qualifications and who wish to enter institutions of further education to pursue full time degree or HND courses.

Nearly 40 percent of full time art students in 1972-73 were taking advanced courses in art and design, most of which lead to a national qualification, the Diploma in Art and Design (Dip. AD). This qualification, obtained after a three year full time or a four year sandwich course, is broadly comparable to a university pass degree and is administered by the National Council for Diplomas in Art and Design. The Diploma courses are provided in 42 further education establishments, mainly at Polytechnics and colleges.

The ratio of staff to students in university education-about 1 to 8-is one of the most favourable in the world and has the practical effect of keeping the student failure-rate low.

Although the Government is responsible for providing some 90 percent of the universities' income it does not control their work or teaching nor does it have direct dealings with the universities. Admission to the universities for a first degree is by examination and selection, and each university or at some federal universities, each college is free to decide which students to admit.

In 1966 a white paper plan for polytechnics and other colleges, proposed that a number of colleges or groups of colleges should be designated as major centres for the expansion of full time part time and sandwich courses at advanced level. These centres are known as polytechnics, developing into broadly based institutions providing a wide range of courses at a number of levels. Polytechnics are run by local authorities.

The Open University

In order to make available the opportunity for study and qualification at university level to every one who wants it the Government announced in 1967 its intention to establish the open university, which received its charter as an independent, autonomous institution in 1969 and began its courses in January, 1971 (its academic year is the calendar year). No formal entrance qualifications are required and the fees are lower than the general level of fees in higher education. Applicants must normally be aged 21 or over but for 1974 the university offered 500 places to people aged 18 to 21 as part of a two year pilot scheme. By 1974 the university had some 42,170 students.

The open university provides for three areas of work-undergraduate, post graduate and post experience. First degree courses are provided in arts, mathematics, educational studies, science, social science and technology. Degrees are awarded on the basis of credits for the successful completion of courses at certain level of study. The ordinary BA degree is awarded to students who obtain credits in six courses and the honours degree to those obtaining eight credits, two of which must be at a higher level than is required for an ordinary degree. The ordinary degree can be obtained after three years' study and the honours degree after four years.

The teaching methods combine three main elements broadcasts in television and radio transmitted by the BBC, correspondence work, and a summer school.

In January 1973 the first post-experience courses began. These are short (generally six month) courses designed for adults who have

had practical experience in a given field, such as, industry, public service or the professions, and who wish to develop their skills and understanding to a higher level.

The open university is financed by direct grant from the Department of Education and Science and does not receive financial aid from the University Grants Committee.

Higher Education and Industry

Many close links have recently been established between higher education institutions and industry. Universities in industrial centres have tended to acquire outstanding reputation in studies relating to their local industries, and on a national scale close relationships are fostered between the universities, industries and the Government in numerous joint projects. The further education colleges have always provided a wide variety of courses to meet the training needs of all sectors of industry. The Manpower Service Commission, established under the Employment and Training Act, 1973, is responsible for training to meet the needs of industry, both in those sectors covered by industrial training boards and in others, and for training to meet the needs of individuals (through the 'training opportunities scheme'). The further education colleges play a major role in these activities.

Technical Courses

For operatives, apprentices and intending craftsmen there are part-time courses of three to five years leading to the examinations of the City and Guilds of London Institute (CGLI) and the Regional Examining Bodies (REBs). The most popular subjects are engineering in various forms of building and commercial subjects.

Entry to technician courses may be direct from school with qualifications at the O-level of the GCE or after one or two year part-time general courses designed to assess the particular abilities and aptitudes without such qualifications. Technician courses provided by the CGLI are largely practical in content and are designed to match closely the industrial requirements of the student.

Educational Techniques

Educational broadcasting, programmed learning and audio-visual aids are having a significant effect on educational techniques. About 92 percent of schools in Britain use school radio programmes, very many with the aid of a tape-recorder. More than 28,000 schools in Britain

use school television programmes Considerable interest is shown in programmed learning and the Association for Programmed Learning and Educational Technology promotes its use by various means including an annual conference which includes an exhibition, week end training courses various regional conferences and courses and programmes through a net work of advisory Centres

The United States of America

The U S A is a vast country made of 50 states, having more than double the size of India wedded to a basic notion of equality of educational opportunity, regardless of race religion colour, national origin sex or financial resources Education is the right to which every young American with the necessary ability and the requisite willingness to work is entitled !

Rooted in the culture of the old world early American education reflected the characteristics of its European parents in the early days when the colonists established schools, patterned after Europe's traditional dual system by which an elementary schooling was available to the common people but anything beyond that was reserved for a small elite In the south America, where class cleavage and stratification was maximum, this dualism was even more conspicuous

However, the pragmatic approach of the new settlers infused them with the ideal of democracy, brotherhood and equality gradually which had simultaneous impact on the American education which abandoned the dual system and evolved a common school with no class differences From its modest beginnings the common school developed into a single system of articulated schools for all from the kindergarten to the college

In the strict sense there is no national system of schools although there is an American general system based upon generally accepted principles of which the major ones are

1. Decentralization The control of education is vested in the States as in India, the federal Government aids in supporting public education

2 Free compulsory, universal education the length of which varies from state to state

3 The educational ladder As mentioned above, there is one system of articulated schools from the kindergarten (4+) to the university (22+)

4 Separation of church and State Under the constitution Church and State are separate Hence the public school may not offer religious instruction in the school building or during school hours

In 1917 the Federal Board of Vocational Education was set up for the purpose of cooperating with the states in the furtherance and development of vocational education. Certain laws such as the Smith-Hughes Act (1917), the George-Reed Act (1929), the George-Dean Act (1937) and other related legislation were passed, seeking to promote vocational education in schools below the college level and had a great impact on American school world.

The land grant colleges, the national present of the first Morrill Act, 1862 should be considered a unique feature of American education. Under the scheme, each State received 30,000 acres of land for each senator and representative then in congress. The proceeds from the sale of such land were to be invested at 5 percent interest and were to be used by each state for the endowment, maintenance and support of at least one college.... "where the leading object shall be... to teach such branches of learning as are related to agriculture and home economics." The original Act was supplemented by further grants in the second Morrill Act, 1899, the Nelson Amendment, 1907, and the Bankhead-Jones Act (1935). Sixty nine land grant colleges have been established. Thus, although the constitution of the United States does not specifically mention education as a province of the National Government, in practice the Federal Government has obviously displayed an educational function. In fact, it has encouraged education first by grants of land and then by financial subsidies. Ever since the early twenties there has been a movement to enlarge the Federal Government's participation in education.

The largest unit of governmental authority in education is the individual state which has generally permitted localities freedom in carrying out their educational responsibilities. Usually the State educational organization is to divide into smaller administrative units, such as county, township, town and local school district. In charge of the local school system is the board of education, a body of honorary laymen, whose qualifications and term of office vary from place to place. Among their duties are the appointment of teaching, supervisory, administrative and other personnel; the acquisition of school-sites and the building of schools; the purchase of supplies and equipment; the levying of taxes; the adoption of courses of study; the framing of regulations for the management of the schools; and the enforcement of the school attendance law. The chief local school officer is the superintendent.

Playing a significant role in the furtherance of education, are numerous professional organisations, the teacher-unions, the parent teacher association etc.

Elementary Education

It has been increasingly felt that some form of pre-elementary education, either in the form of kindergarten or of nursery school has distinct advantages. The curriculum of the modern elementary school is, of course not restricted to the three 'Rs.' Other subjects like citizenship, the social studies of history, geography and civics, literature, physical training, health and hygiene, safety, arts and crafts, music and shopwork are included in the elementary school curriculum.

Secondary Education

From Europe the American Secondary schools had inherited the tradition of 'exclusiveness', but the high schools have now become much more varied and generous in their offering of subjects. Although they continue to teach the subjects which colleges accept for entrance credit, yet to meet the extensive and diverse needs of the great majority of their students they have introduced in the curricula, throughout the nation, courses in automobile driving, aviation, in personal problems and human relations, in mental and personal hygiene, in home nursing, in play-writing, dramatics and Radio, and in the practical everyday phases of democratic living. The great occupations of men and women, agriculture, industry, business, homemaking, the arts in all their aspects, and the applied sciences are also included. The up-to-date high school, where facilities and budgets permit, have foyers as well as lobbies, a kitchen, nursery and sewing room as well as music and an art-room, and a gymnasium in auditorium, a playing field in addition to the usual array of class rooms. The Report of the Harvard Committee, published in 1946 as General Education in a Free Society stated, "General Education has somewhat a meaning of a liberal education. It is that part of the student's whole education which looks first of all to his life as a responsible human being and a citizen." With this in view Harvard has offered the high schools the basic plan which will provide the student with a fair measure of general education before he gets to college or begins to specialize vocationally. Eight basic units—three in English, three in science, three in mathematics, two in social studies—would be a fundamental part of the four year high school programme. Specialization would be in the form of an extension of one of these avenues.

There are two stages at high school education level; Junior high school of 3 years' duration and senior high school of three years' duration after 6 years' elementary education. The school pattern is, thus, 6 + 3 + 3. Some communities, specially the larger cities, have organized secondary schools of a specialized nature.

The Junior College

The Junior college is a twentieth century development. It seeks to respond to the peculiar needs and problems of students who find themselves in what is regarded as a transitional period between the exploratory experiences of the secondary school and the more serious accompaniment of professional study or adjustment in the occupational world. Some Junior colleges are parts of larger universities, and others have been added to secondary schools. Although it is possible for graduates from the junior college to continue their education on a higher level, for the great majority it is the end of formal learning. Hence, there is an urge to the development of curricula which are terminal in nature but which are marked not only by subjects of a vocational and semi-professional bias, but which also give adequate attention to general education of civic and social value.

Vocational Education and guidance

There has been a steady increase in the number of vocational and quasivocational courses, which have grown in scope to many specialized courses. The George-Barden ACT, passed in 1946, introduced the idea of grants to be used for vocational guidance. Accompanying vocational education have been the rise and growth of psychological and vocational tests and measurements. There are numerous aptitude tests of all sorts available. Vocational guidance in the public schools is still another development. The recent years have revealed the need for a vocational education capable of equipping the individual with a wider scope of activity which will, at the same time, enable him to grasp the social implications of his work. In our rapidly changing industrial world vocational flexibility appears to be desirable.

Higher Education

The first consequence of the new philosophy of equality of opportunities is a great increase in the number of institutions of higher education with the problems of staff, libraries, laboratories, dormitories, dining halls, medical services, etc. There were thus in USA, 10-day some 1450 colleges and universities in 1950 if the two year junior or community colleges are included.

Superimposed on the elementary and secondary school system of twelve years' duration (thirteen if the optional kindergarten is counted) are nearly 2000 institutions of higher education. Attendance at them is completely voluntary. The majority of the states require attendance at school

between the ages seven and sixteen, and others between eight and eighteen

The following table shows the American system of education

Chart of American Education

Graduate level	Graduate school of education (22+)	Graduate school of Arts and Science (22+)	Other Graduate professional Schools (22+) (law medicine dentistry theology)
Higher education	Teacher college (18-21)	College of liberal Arts (18-21)	Professional College (18-21) (Engineering agriculture business)
Undergraduate level			
Secondary Education		High school (15-17)	Vocational school (15-22)
Elementary Education		Junior High school (13-14) Elementary School (6-11) Kindergarten (5 optional) Nursery school (4 optional)	

In an enormous and complex educational system a single curriculum is not adequate. There must be diversity. Some students do not want to learn foreign languages others do not want mathematics still others have little or no interest in the arts. Hence the necessity of developing a series of curricula that satisfy many different needs. The teacher must teach what the students demand. This is indeed a great change in the philosophy of education. The State universities follow the new philosophy of equality of opportunity. The private universities follow in part the philosophy of high quality of training the elite. Perhaps the best course lies in the union of the two.

Universities students in the United States include the four year college programme for which the Bachelor's degree is normally awarded an undergraduate programmes which will normally terminate with the master's degree given for one year's study and the doctorate given for studies lasting

for four or more years which may or may not include the master's programme. The college is thus an integral part of the university system and follows upon the twelve years of instruction in the elementary, junior high and high schools (6+3+3) or (8+4) or (6+2+4) from state to state.

There is usually a vocational guidance Centre, to assist the student in selecting a degree programme in harmony with his interests and aptitude. Closely related with this Centre is the placement bureau, which seeks to find suitable employment for the graduates. Then there may be a Central testing service, which is involved in various and sundry aptitude, achievement, and placement tests. Lastly, there may be a study-counsel centre, which assists the student, often for a nominal fee, in his study habits attempts to improve his rate of reading, furnishes extra help in specific academic courses.

July and August which are vacation months are utilised by regular students to make up deficiencies or accelerate the attainment of their degree and also by practising teachers to acquire more knowledge of their subject matter or of pedagogic techniques.

University extension is the teaching, normally done at night or in the late afternoon or on Saturday morning, that is specially arranged for adults who work during the day. Men and women in large number take advantage of it. The universities, even confer degrees on extension students, for instance, that of adjunct in Arts. Adult education, which ranges from courses in pottery-making to high level courses in the humanities, is assuming ever greater proportions and television is being utilized to advantage.

In broad outline, general education, normally combined with pre-professional preparation, is the function of the undergraduate college of liberal arts and professional education is the function of the graduate schools. There are some professional colleges at the undergraduate level. These colleges and also a vast number of technological and vocational colleges, schools and institutes that require high school diploma for admission are most important. The role of the State agricultural colleges, for example, is vital to the American economy. Military service (Army, Navy, Air Force, Marine corps) and Journalism are included in the list of professions. There are a number of excellent colleges of journalism, usually four year undergraduate colleges awarding the bachelor's degree.

High education in the United states is free of national, governmental control. There is an Association of American Universities as

well as other voluntary unilateral associations among which the National Education Association, whose Association for Higher Education is very active, requires special mention. For relations with the federal government, as well as for many other reasons, the various educational institutions and associations maintain in the city of Washington the American Council on Education, whose permanent secretariat, among other duties, studies legislation concerning or affecting educational matters under consideration by the Congress and expresses the opinions of the members of the Council to the members of Congress, a democratic and effective procedure.

France

At the head of the French School system stands the Minister of National Education who is advised and assisted by a hierarchy of administrators, inspectors, and other officials. The largest and most important advisory body is the higher council of public instruction, a part of which has been organised into a permanent section, which does the council's heavy work. In the actual administration of the educational laws and regulations, the Minister's most important representative is the Rector, who is the Chief Educational Officer in an administrative area known as an academy.

French elementary education comprises of (1) the elementary school—the ecole primaire; (2) the infant or maternal school—the ecole maternelle and the classe enfantine; (3) the higher elementary school—the ecole primaire superieure; and (4) those institutions which prepare teachers for these schools—the ecole normale primaire and the ecole normale primaire superieure.

Attendance at the infant school is voluntary, children being admitted at the age of two and remaining until they are six. The curriculum consists of (1) physical exercises, games and movements with songs; (2) sensory exercises, manual work, and drawing; (3) exercises in observation; (4) exercises for the development of moral habits, (5) exercises in language and recitation; (6) introductory exercises in reading, and arithmetic.

Primary Education

In France, education is free and compulsory for all children between the ages of six and thirteen. Every commune must provide a public elementary school. The elementary school work is organised by courses rather than classes. There are four courses. The first is the preparatory

course and is for one year. The next three courses are each of two years' duration. The first is the elementary course for seven to nine-year olds; the intermediate course for nine-to-eleven year olds; and the advanced course for eleven to thirteen year olds. The child studies morals and civics, reading and writing, French, arithmetic system, history and geography with special stress on France, object lessons and elementary sciences, drawing, singing, manual work for boys with stress on agriculture needlework for girls, and physical and military training.

One of the most difficult problems confronting French elementary education has been the rural school. But with the general increase in the population movement towards the city, French educators have become more aware of the immense significance of rural education. Attempts to adjust education to local needs are encouraged. The establishment of a rural school of an agricultural character is stressed.

Advanced Elementary School

Higher than the école primaire, but not the equivalent of the secondary school, is the advanced elementary school which offers a three year course for boys and girls holding elementary certificate and having been at least one year in the upper course of the elementary school. Each school may decide on the number of curricula offering fields that are general, industrial, agricultural, commercial, or in home economics. The advanced elementary school is generally established through the efforts of the local authorities. The work in this school is practical rather than academic. The main purpose of the advanced elementary school is training for the country's administrative and economic occupations intermediate grade of civil service officials.

Secondary Education

Secondary Education in France covers the span of 6 + 1 seven years. There is a common course in the general subjects for the first six years, with an option, however, in the first four years, between Latin and the modern foreign languages. In the fifth and sixth years the options are threefold. Section A offering Latin and modern foreign languages; Section B offering modern foreign languages. The other subjects—French, history, geography and the sciences seek to effect a balanced curriculum by being the same for all. The aim is to give a liberal literacy and scientific education and to allow specialization. The seventh year continues to be either philosophical or mathematical in emphasis.

The work of the Secondary school is crowned with the baccalaureate which is awarded on the basis of written and oral state examinations. The first part of the test comes at the end of the students' sixth year, the second follows the work of the seventh year. The bachelor's certificate opens the way to most of the higher schools.

There are two kinds of public secondary schools- the colleges and the lycee. The latter is run by the State and is national; whereas the former is a local institution. The college is partly subsidized by the State. Education in public secondary school is free. With a few exceptions, the French secondary schools are boarding schools. Not only do the college and lycee have elementary classes, but some also conduct advanced courses for students who have finished their secondary schooling and have obtained baccalaureate.

Post-war France witnessed modernization and democratization of the school system. Education is made free & compulsory for all students upto the age of eighteen. To bridge the gap between their modern industrial order and the school, the French undertook to reduce the latter's top-heavy intellectualism, and to put all curricula-manual, technical, artistic and intellectual on an equal footing. Not only is every French child to be guided and trained in harmony with his special aptitudes, but he is also to be grounded in the common core, of a general education. As for education beyond the age of eighteen, it is to be for those of demonstrated ability in technical, literary, scientific or artistic fields.

Each stage of education is dedicated to a special purpose. During the first stage (5-11) the child is to master the basic skills and knowledge that will "enable him to understand and to be understood." The second stage (11-15) is pre-elementary-a period of guidance in which, though it continues to deal in general culture and skills, is "to be devoted to a systematic observation of the children in order to discover aptitudes and to facilitate their guidance. In the third stage (15-18) education becomes diversified and specialized. Students of an academic bent and hence potential candidates for the higher learning, are grounded in the requisite theoretical subjects essential to the pursuit of university work. As for others, besides their general education, they will receive specialized training to a career in agriculture, business, or industry. Significantly, the Langevin Commission stressed that the work of the third stage be flexible, offering "a considerable diversity in order to provide combinations of studies of disciplines, adjusted to the various kinds of aptitudes."

Beyond the eighteenth year—or the compulsory age—education enters upon its level of higher education and is open to those who have demonstrated the necessary competence. Amplified and diversified, it is to guide students more specifically in the direction of their fields of specialization. Technical studies find their place, here, on an equal footing with the literary, scientific and artistic. One of the important functions to be fulfilled by this level is the preparation of teachers, besides of course, putting the finishing touches on the academic preparation of university students.

Germany

The second world-war gave a great set-back to Germany and divided the state into two pieces—one under the influence of the Allied powers and the other under the influence of USSR. Among many problems of German reconstruction, one major problem pertained to educational reconstruction.

Even before the third Reich's downfall in 1945 it was recognised that something would have been done to counteract the effects of Nazi education on German youth. A formidable weapon of fascism was its disparagement of the intellect. "I will have no intellectual training", vociferated the Führer; for the intellect, he was convinced, was a disease of life. "Knowledge is the ruination of my young men and universal education the most corroding and disintegrating poison". Consequently, the Nazi policy was to destroy the intellectual basis of education.

Educational experts were sent to the Reich to study the problem of remaking the German mind. The help of the German emigre's was utilized. Even before the War's end a group of such men and women had organised in England as the German Educational Reconstruction, a society dedicated to furthering and developing a democratic system of education in Germany. This positive task meant the creation of new texts and study materials in harmony with the purpose of the new programme. It required cooperation, and hence the cultural and moral regeneration of the German adult. Materially, the task of re-education has been handicapped by obstacles such as a lack of school houses, a dearth of teaching materials, a shortage of teachers and of course, the appalling malnutrition existing among Germany's children. Yet, in spite of these difficulties, most elementary schools and a fairly large number of secondary schools were opened in the fall of 1945. Subsequently, some universities began opening their doors.

The German regions under the allied Control Council of U.S.A., Britain and France were later on integrated into Federal Republic of Germany as a sovereign State which has evolved its own educational structure suited to its needs.

Russia's Iron curtain has enveloped its re-educational activities in obscurity; a few facts, however, have been disclosed. The Russians have given a front place to mass education, including the theatre, the movies, the radio and the press. Russian policy of re-education appears to be closely related to the basic principles of communist doctrine. In East Germany there is a programme of compulsory education for all children between the ages of six and fourteen. Following compulsory elementary school are several types of secondary schools with differential curricula. Children who do not continue their schooling after the compulsory period are required to attend some kind of vocational school for at least eight hours every week over a period of three years.

In the Federal Republic of Germany the Minister of Education in each State is responsible for state education. Elementary Education covers a span of 8 or 9 years. In between elementary and secondary school there is an intermediate school consisting of six grades (V-X). The secondary school known as Gymnasium is like a 'higher' secondary school or grammar school, which consists of 9 grades (V-XIII) leading to the Abitur, i.e. secondary school leaving certificate, which makes a pupil eligible for admission to institutions of higher education. Besides this, there are comprehensive systems of schools as well as advanced vocational schools. The first degree is obtained after four years' University Education in arts and after 4 to 5 years' education in natural sciences. Thus, the span of school education is 13 years and the first degree can be obtained after 17 to 18 years of total education.

Belgium

Belgium has a twelve years' pattern of education with six years of primary schooling, and six years of secondary schooling with two stages i.e. 3 year lower secondary and 3 year upper secondary with greater specialization. The system of vocational education has been designed to serve local needs. Higher education courses are of 4 years, with two years of general preparation and 2 years of specialized stage leading to a degree. The educational structure is thus 6+3+3+4(2+2).

Netherlands

The countries of Netherlands have a primary pattern of 6 years followed by a 6 years' course of secondary education. An important

feature in the system is 'bridge year', as the first year of each type of secondary school, designed to assist the pupils to adapt themselves to the new secondary school system which has been introduced from 1968. Secondary education is divided into pre-university education, general post-primary education, vocational training and other forms of post-primary education. Secondary education as a preparation for university education lasts for 6 years. The post primary education offers '4 to 5 year courses of vocational training. A 3 or 4 year course leads to the first degree two years after which a pupil can obtain doctorate degree.

Scandinavian Countries

Norway and Sweden have replaced their traditional 7 year primary school by a 9 year compulsory comprehensive school. After completing the 9 year school, students in Norway may enter the gymnas, the senior secondary school which offers 3 year of education in five specialization areas; the Latine line, the science line, the English line, the Norwegian line and the Biologi line. Those who do not want to go to gymnas, may enter into the continuation school or the vocational education is provided through the comprehensive basic training in agricultural industry and handicrafts. There are two types of university degrees-a lower and a higher. Normally it takes 4 or more years to obtain the higher degree. In Sweden, pupils are assigned to different streams before the 9th grade. In the ninth grade the students are introduced to any one of the 9 streams covering five sectors-humanities, social sciences, natural sciences, business (economics) and technical arts. Provisions made for common man are of subjects being largest in the first year and being gradually decreased with increasing specialization in subsequent grades. Besides the gynasium there are the continuation school and a vocational school. Efforts are being made to amalgamate the three types of schools in a single form so as to build a more uniform secondary system. In the university education, the period of study leading to the first degree varies from subject to subject, from 3 years to 4 or 4 1/2 years. Thus, we find 12 years pattern of school education before the commencement of higher education.

Italy

In 1918, by a royal decree, a Commission was organised to study the types of education best fitted to meet the nation's needs. Its recommendations were (1) the establishment of at least one compulsory school of four grades in every commune, (2) the fixing of eighteen years as the leaving age of pupils; (3) the lengthening of the

school year; (4) the organic inclusion within the state of nursery school and Kindergarten education; (5) the raising of the teacher's minimum salaries; (6) the establishment of special secondary schools for the preliminary professional training of teachers; (7) the creation of compulsory schools for illiterate adults upto the age of 45.

Before these recommendations would materialise, Mussolini and his party came to power and Italy was under the Fascist rule till the end of world war II. The new pattern of education, based on the Bottai Reform in 1939, included a three year common school to be followed by five years of elementary education and three year vocational school or a two year technical school. Beyond that a selected few could attend free 'colleges' of "Military and fascist character."

Like the Nazi Reich, defeated Italy was put through a process of re-education. On the whole, the assumed pattern was similar to one which had developed in Germany. Thus the allied Government undertook to reopen schools, universities and other cultural institutions and to get them functioning on a non-fascist basis. Italy's educational pattern today is more or less on the lines of that in vogue in the Federal Republic of Germany.

Russia—U. S. S. R.

compulsory schooling, (3) maximum opportunity for all, (4) preparation of a trained body of teachers and (5) adequate support of education. The educational structure of the USSR stands on this basic proclamation. To-day the USSR has an educational ladder. For youngsters under three is nursery; upto the age of eight come the kindergarten and other pre-school institutions. This period has now been shortened by one year and the kindergarten is followed by free and compulsory education in comprehensive and unitary eight year school which is divided into two stages: three years' primary education and five years of lower secondary education. The curriculum of the eight year school is the same throughout the country. Eight year schooling period is followed by two to three years of senior secondary stage. Education upto grade X is compulsory. The senior secondary stage leads pupils wishing to acquire training for a particular occupation to the senior secondary polytechnical school. Those who wish to have specialised vocational secondary education, enter the technicums which offer 3 to 4 year study and training. Higher education is available in universities, polytechnical institutes and specialised institutes. The duration of higher education ranges between 4 and 7 years according to different courses. The first degree course generally lasts for five years. The educational ladder in the USSR thus covers the age range from 3+ to 22+, which is generally the same as in USA.

To the Russians, education means (1) active participation in the building of their own lives, (2) stress on socially welfare labour; (3) establishment of intimate connections with contemporary life; (4) the study of nature and the development of a materialistic outlook. Student text book based on communist ideology is made obligatory. Aptitude and ability tests are used to channel pupils to suitable areas of studies and specialisation.

The creches which are attached to factories where women are employed, are nurses caring for young babies while their mothers work. The care of children under three years of age is a duty of the people's Health commissariat. The work is essentially practical, emphasizing health, hygiene and the development of social and personal habits. The hearths and kindergartens supplement the work of the nursery. They care for children between the ages three and seven, and lay great stress on cleanliness, health and habit formation. In the pre-school period, the child is initiated into the elementary forms of self-service and gradually is led into more social types of labour. Children help to keep things tidy and clean. They assist at the tables, care for animals, work in the garden, shovel snow, and

participate in dozens of other activities Much stress is laid on nature They make their own collections, and on their hikes and excursions they search for flowers, insects, stones and all sorts of things which not only appeal to the childish age and heart but are also instructive Every kindergarten has some kind of a workshop which is often built by the children themselves As far as possible the child's education is related to the actual living world Stress is put on collective activity and creative and aesthetic expression Music, singing, dancing and rhyth mics are other notable features of the curriculum More attention is given to the development of child literature that does not restrict itself to any particular educational level, but cover the child's whole life. Classified under five heads, the contents of the Russian child's literature comprise (1) the child's environment, (2) the world of machines and innovations, (3) stones from far and near, old and new, (4) riddles and stories to test and direct perception (5) imaginative entertainment Books reflecting the child's world consider such matters as plant and animal life, health and hygiene, toys and their makers pets and child ren's organisations Development of the scientific attitude towards life and indoctrination of communist ideology are stressed at all stages of education

Education by itself or for itself for the communist is meaningless, education is for the social order To train the further members of the communist party, there are special organisations There are octobrists for children from six to ten, the pioneers for ten to fifteen year olds, and finally there are young communists for those between the ages fifteen and twenty five All these youngsters are trained in the meaning of communism with special reference to the class struggle and the meaning of Leninism All grounded in communist ideology they are expected to be activists and non-religious in addition to being productive workers

It was during the World War II that Russia altered its stand on the question of co-education In 1943 separate elementary and secondary schools for boys and girls were established on an "experimental basis"

Russian education is directed towards the strengthening of the socialist state To bring this about one must form 'the new man' who is 'characterized by his attitude towards labour for the state This attitude is most intimately related to the communist attitude towards public ownership'

Japan

Japan is a far more industrialized country. The "educational" structure in Japan consists of six year elementary education, 3 year lower secondary, 3 year upper secondary and 4 year higher education. Upper secondary education offers general and vocational streams in comprehensive high schools. Vocational and technical education outside formal school pattern has assumed great importance in the country. Japan has required primary school teachers to have a full four year university course since 1949.

These advanced countries have achieved universal first level or elementary education. The quality of first level education is generally much better in these countries. This is because the proportion of qualified teachers is undoubtedly higher. Most primary teachers have at least two years of higher education beyond the secondary schools. Training of elementary teachers in the United States is a major educational industry. In Great Britain, the great majority of teachers in English and Wales schools are the product of two year teacher training colleges, in which students enter directly from grammar school after completing sixth form work. In the Soviet Union, primary school teachers upto 1959 were trained in semi-professional schools alongwith preschool teachers, youth leaders, etc. This involved a four year programme following completion of seven years of general school i.e., eleven years' education including primary teacher education. There is now a trend in USSR towards more advanced training in higher educational or pedagogic institutes, as has been done for secondary school teachers.

Secondary education is approaching a universal system in many of these advanced countries. Western countries and Japan have made a successful effort to provide a secondary school education for nearly three fourths of the age group 15 to 19. The French secondary school system was long considered one of the best in the classical sense, with emphasis on individuality and personal competitiveness. But it was also elitist as in Great Britain. Recent reforms are designed to make it more democratic, more scientific, more technical, along lines which might be called American lines. In Great Britain also, under the Education Act, 1944 a tandem system of free, compulsory primary and secondary education for all children from 5 to at least the age of 15, (now extended to 16) was established.

In Japan the adjusted second level enrolment ratio is 79.4 exceeded only by the United States and United Kingdom. Under the fundamental law of education passed in 1947, nine years of education are compulsory six years of primary school and three of "lower secondary" school.

They are free and publicly supported as are the upper secondary or high schools which can be entered only after stiff competitive examinations. The 1947 Act was intended to democratize Japanese education along the lines of the American model.

The Soviet Union has made tremendous strides in providing Senior secondary education for students aged 15 to 17. In 1926 12 per cent of this age group was enrolled in senior secondary schools but by 1958, the percentage had risen to 33.6.

The quality of second level education is good in the advanced countries. Secondary school teachers are generally better trained and better qualified.

The structure of secondary education in terms of the different types and routes varies among the advanced countries. The Soviet model has been a series of secondary schools in which some have been professional schools (technicums) and some have been labour reserve technical schools for those who have completed ten years of schooling and do not go on to higher education. The reforms in Soviet education since 1963 provide an even wider variety of secondary schools most of which provide polytechnic training combined with part time work in industry. There is generally to be a period of employment between graduation from the general secondary schools and entrance to the higher education institutions. Thus Soviet emphasis on specialized job related secondary education is evident in contrast to the emphasis on more general knowledge and skills in the secondary school programmes of most of the other countries in the advanced group.

Higher education in the advanced countries is one of their distinguishing features. Quantitatively enrolments as a percentage of the age group 20 to 24 averaged over twice as many as semi advanced countries and ranged from 6.1 in West Germany to 32.2 in the United States. The German university system with its stress on research influenced the development of new universities in the United States such as Johns Hopkins, Cornell, Chicago and others. But that was made available to more young people earlier in the United States than in western Europe. This democratization was a distinctive feature of American higher education and other countries have tended to follow this leadership. The recognition that ability to profit from higher education is not confined to certain classes in the society was an important lesson in the historical development of advanced society, and they benefited from the additional high level human resources which an expanding system of higher education provided.

Expansion of the land-grant colleges and universities was paralleled in the United states by the growth of other new institutions, and the democratization of the older established universities. By 1962, 4.6 million students were enrolled in American colleges and universities for full time work toward degrees. About 2.76 million of these were enrolled in public institutions, and 1.84 million in private colleges and universities. There were 2040 universities, colleges and junior colleges and in addition, there were nearly 150 technical institutions offering two year programmes beyond secondary school. An outstanding example of a state system of public mass higher education (for tripled enrolments by 1975) is the California Master plan of a three-tiered system of universities, state colleges and two year Junior colleges.

While these developments were taking place in the United States, the British system of higher education also experienced dramatic changes. After the 1944 Act, there was a major expansion, including the establishment of a limited number of colleges of Advanced Technology in which there should be developed technological courses of a standard comparable with that of university degree courses. The importance of these technical colleges can be seen in the reported fact that 20 percent of newly qualified scientists and 70 percent of qualified engineers come up through non-university channels in Great Britain.

Similar developments have occurred in other advanced countries. In France, for example, university enrolments (excluding the grandes écoles) have risen from about 1,39,000 in 1951-62 to an estimated 2,41,000 in 1961-62. This relatively rapid growth in French secondary and higher secondary education is explained by the demand for skilled and highly skilled manpower, and the changed attitude of parents towards financing further education.

The number of higher educational institutes in Japan increased steadily. The educational reforms beginning in 1947 affected mainly primary and secondary levels of education, although there were also some American style changes in the university system. Admissions increased sixfold between 1947 and 1958 and by 1960 there were 245 Japanese universities with the expenditure worth nearly 1.25 million dollars.

of higher education is directed toward the production of the type of scientific, professional, and administrative personnel needed in the Soviet society. Of 346 specialties offered at higher education as of in January, 1959, 181 were in engineering and other industrial field specialities, 12 in agriculture and forestry, 41 in economics and jurisprudence, and 106 in education. Altogether, 22, 67,000 students were enrolled in all types of higher education in the USSR, with the university enrolment as such representing less than 10 percent of the total. Not only is the Soviet higher education excessively specialized, but half of it is also part-time. The proportion of students enrolled in scientific and technical faculties is the highest of any advanced country.

The highest percentage enrolments in engineering and industrial fields in the USSR include many who enter managerial positions in Soviet industrial enterprises. Industrial managers in western Europe, the United States, Canada and Japan are recruited from many university fields : law, liberal arts, and (especially in the United States) from schools of business administration. Professional training for management is a fairly recent development but one which is becoming increasingly important in an advanced industrial society. The soviet gear their system almost exclusively to the production of specialised high level manpower required for a highly industrialized society which is determined to make its voice heard throughout the world and to spread its ideology. Education and national purpose are inseparable.

the graduate levels in these fields in universities and advanced technical institutes.

For advanced democratic countries, the historical words of the late president Kennedy in his special message at the time of a National Education Improvement Act of 1963 should be ever-guiding: "This nation is committed to greater advancement in economic growth; and recent research has shown that one of the most beneficial of all such investments is education, accounting for some 40 percent of the nation's growth and productivity in recent years. In the new age of science and space, improved education is essential to give meaning to our national purpose and power. It requires skilled manpower and brainpower to match the power of total discipline. It requires a scientific effort which demonstrates the superiority of freedom. And it requires an electorate in every state with sufficiently broad horizons and sufficient maturity of judgment to guide the nation safely through whatever lies ahead."

Development of Human Resources

The formal educational system is only a part of the process of human resource development, though a very important one. Other formal institutions such as the armed services, political parties and youth organizations also help to develop human resources in the advanced countries.,

In large enterprises characteristic of an advanced industrial country, training cannot be as informal as in the small firm, so personnel and training departments have been established to develop on the job training programmes along with other components of modern personnel administration. In addition to traditional methods, teaching machines, television, video tape recorders and other advanced techniques are being introduced in training programmes.

The relation between vocational education and industrial training has not been worked out satisfactorily even in advanced countries. On the one hand, there has been a demand for vocational education to provide a marketable skill to youths who do not plan to continue further formal education. On the other hand, employers have been critical of quality of this education and have found it necessary to develop their own training programmes. Hence, the number of trade school-industrial employment co-operative programmes have been relatively small in many advanced industrial countries. Employers have preferred to supplement formal education after its completion with their own

training programmes or to provide opportunities for individual employees on their own initiative to take evening courses at local technical schools or universities.

The Russian experience indicates fairly close co-operation between industry and the vocational schools, although it is scarcely voluntary because this "co-operation" can be ordered by the Government as a matter of educational policy.

One particular type of industry university training has developed in the United States and spread to other countries is management training or "executive development." An increasing number of American companies are sending their junior and senior executives to special short residential programmes of graduate school of business administration and management. The trainees are exposed to the broader economic and social environment within which they must operate. Similar programmes have developed in British Universities as a part of growing interest in management education, in Germany largely outside the university system through special programmes sponsored by German business associations, in Sweden through the Swedish Employers' confederation at a residential institute, and in Japan through university in cooperation with the Harvard Business School. Thus, the development of management through internal as well as external programme is a conscious policy of progressive enterprises in all advanced countries.

Various types of extension and adult education programmes which have developed in the United States and Western Europe countries are very important means of developing human resources. Examples are the agricultural extension programme in the United states, other colleges and university adult extension programmes in various cities; conferences and short courses on university campuses, trade union leadership training programmes (such as the Worker's Educational Association in England) and the folk High schools characteristic of Scandinavian countries. Danish Folk High schools were largely responsible for changing attitudes and improving the skills of Danish peasants and consequently changing Danish agriculture into one of the best butter and bacon producing economies in the world.

Despite the high level of their human resource development, the advanced countries still face critical manpower shortages.

First as advanced industrial nations, they are under continuous pressure to innovate and make new discoveries in science, technology, management, public administration and social and economic policy.

They are forced to spend increasing amounts on research and development and this is no less true of Governments than of private enterprises. They require increasing numbers of high quality scientists, engineers, industrial managers, administrators, teachers and many other specialists and generalists. Secondly, advanced countries are committed to a policy of full employment of human resources. Though the race between the economic growth and the birth rate has been won, the very dynamism of the advanced economy causes specific employment dislocations by making old skills redundant as new ones are developing. Thus, structural unemployment may occur in particular industries or localities and it is generally manageable only when the rate of economic growth assumes enough total employment to permit shifts of people from one occupation, industry or locality to another. A third imperative in the advanced countries is to make secondary education virtually universal as a human right. The decline in the demand for unskilled labour as a consequence of technical change and automation, has increased the desire of young people and their parents for more education through the secondary schools. The universal demand for secondary education in advanced countries is not solely an economic one; people to-day want more education to help them achieve a variety of personal goals as citizens in modern nations. Fourthly, similar pressures have led to the demand for sub-professional and higher education for most of those who are qualified in the advanced countries. It is probable that in the coming decades there will be strong pressures to expand the number of junior colleges, and universities in advanced countries. The political demand is reinforced by the need for better-trained and technically qualified people in advanced industrial societies.

Patticular shortages of high level man power in advanced countries require considerable improvements in the quality of higher education, and much of this will be at a post graduate level.

The future scientist and engineer needs to have a greater understanding of the interrelationship of science, technology and the society. Similarly those who train themselves for positions in management, public administration, economic planning and social policy may need to understand more than they do now about the scientific and technological character of modern society.

Effective utilization of high-talent manpower in science, engineering, management, public administration, and other critical fields can be greatly improved by better leadership and supervision of those scarce human resources in organizations. Effective administration and supervision of

scientific and technical manpower has not progressed as rapidly as it should in the advanced countries. The low ratio of sub-professionals to professionals in research and development groups is not only a symptom of this inadequate management, but the result of failing to train and develop enough technicians.

Public and private economic policies to encourage a continued high rate of economic growth and to develop a more variable labour force are essential in all advanced countries. No responsible government can long tolerate politically or economically a high general unemployment rate which bears most heavily on certain groups in the society. Now discoveries in science and technology resulting from research may, continue to spark dramatic new increases in some industries while others are in decline. This involves enlightened managerial policies in the introduction of technical change, as well as public programmes to cover retraining expenses, unemployment compensation, and transportation expenses. Adjustments to job changes depend on the type of education for enabling the dislocated to learn new skills rapidly.

Continuous technological changes in the society require a broader secondary education with a solid base in science and mathematics as well as in other liberal subjects. A narrow vocational or technical secondary education will not assume the personal and occupational flexibility which an advanced country requires. Better trained teachers will be needed and new methods of teaching technology (visual aids, television, programmed instructions, etc.) should be used.

The availability of some form of higher education to all those who qualify will involve considerable expansion of junior or community colleges, two-year technical institutes for training sub-professionals, advanced technical institutes, as well as colleges and universities.

Adult education is no less necessary in advanced countries than in the less developed ones. It may involve retraining and educational programmes of various types.

Finally, some distortions in the incentive structure for the critical professions in advanced societies require correction. When truck drivers earn more than school teachers in the United States, for example, something is wrong with the relative incentives. An organised national labour market is neither possible nor desirable in advanced countries, but some improvements in the existing pattern will need to be made in the decades ahead. Improvements in the public service system and in other vocational counselling will be necessary.

The advanced countries have to solve these immediate problems before them, for the future of these countries depends more upon the development of brain-power than upon the development of physical resources.

Semi-advanced Countries

The following countries fall into this category, on the basis of composite index, according to Fredrick Harbison and Charles A. Myers.¹

Semi-advanced Countries :

The following countries fall into this category on the basis of composite index, according to Fredrick Harbison and Charles A. Myers.*

1. Mexico	8. Portugal	15. South Korea
2. Thailand	9. Costa Rica	16. Italy
3. India	10. Venezuela	17. Yugoslavia
4. Cuba	11. Greece	18. Poland
5. Spain	12. Chile	19. Czechoslovakia
6. South Africa	13. Hungary	20. Uruguay
7. Egypt	14. Taiwan	21. Norway

This was the position in 1964. The pace of progress in these countries cannot obviously be the same. Some have switched over to the advanced level, while some are on the threshold between the two. Some of them have still to strive hard to upgrade themselves.

The average secondary school enrolment ratio for semi-advanced countries is less than half of that in advanced countries; the higher education enrolment ratio is two-fifths, the primary enrolment ratio is four-fifths and the composite index is two-fifth that of advanced countries. The average semi-advanced country has two-thirds as many teachers, half as many physicians and dentists, and nearly three-fifths as many engineers and scientists as has the average advanced country.

The semi-advanced countries can produce practically all the high manpower that it needs (with the exception of scientific and technical personnel) and it may even export some to less developed countries. The semi-advanced country is on the road to becoming an advanced country, and it can travel that largely under its own power. Its progress will depend on its strategy of human resource development.

* Education, Manpower and Economic Growth, Oxford and IBH Publishing Co., Calcutta, Bombay and New Delhi.

The semi advanced country is a follower rather than an originator of scientific, engineering and organizational innovations. Although it has a broad base of primary education, with generally well developed secondary schools and some good institutions of higher education it has not been able to develop the research manpower and research institutes which are characteristic of the advanced countries.

Most of them are so long as predominantly agricultural although there are notable exceptions such as Thailand, South Korea, India, Yugoslavia and Egypt. In the non agricultural sector govt is no longer the largest employer of skilled manpower. Transport power and communication are on the whole well developed. In some countries however bottlenecks persist in electric power, railroads, irrigation etc partly because of a shortage of the skilled and technical manpower to build and operate them.

Population is rising at such rates in India, Egypt and Mexico that economic growth must exceed 2 or 2.5 per cent annually to raise per capita income at all. In India the labour force is growing at a rate of between 1.5 and 2 percent a year and unemployment as well as underemployment remains a persistent problem, even among the 'educated'. There may be 9 million unemployed and 15 to 18 million under employed in India (in 1961). Surplus agricultural labour in Egypt is estimated to be as high as 50 percent of the total agricultural population.

Substantial efforts have also been made by the nationalist leadership in India, Egypt and Mexico and these efforts have upgraded these countries to this level from underdeveloped one. As early as 1947 a scientific manpower committee recommended to the Government of India that a National Register of Scientific and Technical Personnel be established. Subsequently the Planning Commission appointed an Engineering Personnel Committee which reported on supplies and shortage in 1956 with recommendations on ways to meet the shortages. An Agricultural Personnel Committee made a similar report in 1957. Later the Scientific and Technical Manpower Division of the Planning Commission made two careful studies of engineers and scientists in India, with the recommendations that if the projected investment programme of the third five year plan were to be carried out by 1967 even more engineers and technicians would be required than had been earlier estimated. These studies resulted in the projected enrolment in higher technical institutes and several new ones were planned with foreign technical assistance. It is also significant that a Manpower

Directorate was established in the Home Ministry and States of the Union have followed suit.

Despite the emphasis on manpower planning and increased enrolment in scientific and technical faculties in higher education, India is still plagued with excessive university enrolments in fields which are not clearly related with India's present stage of economic growth. A substantial part of Arts (Humanities and Social Sciences) faculties and low quality 'commerce' faculty are overcrowded. At the present stage of development, these grades cannot easily be absorbed in productive employment.

The present imbalance between the supply of university graduates and the demand for them, as a consequence of too many students enrolled in 'law, language and art' and too few in most types of engineering and in business administration, had led to a suggested modification of the secondary school system to redirect the flow of graduates from secondary schools towards engineering and science.

A special study of Delhi University graduates in 1958-59 showed that 33 percent of those who graduated in 1950 and 7.2 of those in 1954 were still unemployed. Of those employed, one fourth of the 1950 graduates and two fifths of 1954 graduates were working as clerks. As Dr. V. K. R. V. Rao observed,* "It is really a matter of both surprise and regret that, besides the pass graduates, so many Honours graduates in arts and so many M.A.'s should be working as clerks. The case is the same with the law graduates. In fact, taking only those alumini of 1950 who were working as employees, we find that between 6 and 7 of ten pass graduates, one in 2 of law graduates, one in four of Honours graduates, and 2 out of 10 M.A.s are all working as clerks eight years after their leaving university."

Shortages of scientific and technical manpower have also been examined in Norway, Greece, and Yugoslavia under the sponsorship of the Organization for Economic Co-operation and Development. Italy has also been concerned with a revision of its educational system, particularly higher education, to meet the manpower requirements of economic growth. A special study made at the request of the Minister of Education concluded 'The educational system will have to pay close attention to the development of our economic structure so as to adopt itself, both from the point of view of general education and from that of profe

* Dr. V. K. R. V. Rao, *University Education and Employment A Case study of Delhi Graduates*.

ssional training to the ever growing requirements of society for specialized and differentiated technically skilled and functional education Inadequate allocation of resources in terms of money staff buildings and equipment comes in way of meeting the intense demand for university places in Greece The shortages of scientific and technical manpower will continue to be a problem for many years in Yugoslavia So far a large number of Norwegians had to seek admission abroad for technical education The new plan to revise technical education to establish new colleges to expand existing ones including the Norwegian Institute of Technology is under implementation

Unlike the advanced countries, however, the level of economic development is still not high enough to absorb all those finishing higher education, regardless of field of study Even among those professionally trained, there are likely to be relative surpluses and shortages A survey of the role of educational planning in the economic development of the Republic of China (Taiwan) concluded that there would be a probable oversupply of Civil Engineers Electrical Engineers Chemical Engineers Economists Forestry Specialists & Agricultural Economists On the other hand shortages were expected in teachers in higher education and secondary schools mechanical engineers accountants and financial analysts A suggested partial solution was to give supplementary management training courses to the surplus engineers and economists to prepare them for industrial administration jobs In the absence of such alternatives a relative oversupply of high level manpower in one country may lead to emigration to other countries where shortages are more pervasive

First Level (primary) Education

Although most of the semi advanced countries have achieved legal universal compulsory primary education for at least six years the lack of school space and teachers in rural and backward areas known as scheduled areas means that published enrolment ratios show less than universal primary education The unadjusted first level school enrolment ratio in India was only 34 percent in 1958-59 In Egypt only 77 percent of the school age children could be admitted to primary schools in 1961 because of lack of space

Only 35 of every 100 pupils who start first grade in India finish the fifth grade five years later In Chile only 20 per cent of the school age population completed their primary education between 1950 and 1959 A survey of school enrolments in Latin America showed the

following data on sixth grade enrolments as a percentage of those who started the first grade; Chile, 21 percent; Costa Rica, 20 percent and Mexico and Venezuela, each 15 percent. Thus efforts to improve the quality of first level education to reduce this wastage may be as important as quantitative expansion of primary education.

Mexico's experience in developing rural primary schools and teachers is instructive. The effort began in 1920, with volunteer primary teachers who started classes "in parties, gardens, public squares, or on street corners" until schools were built later; educational 'missionaries' helped villages to build their own schools, which became also community houses. Gandhi's scheme of basic education emphasizing crafts to provide useful skills and to break down barriers between manual and intellectual work had rural uplift as one of its major objectives. Thus, effective primary education in semi-advanced countries is geared to the varied needs of the developing societies in which rural areas and agriculture still play an important role.

Second-level (Secondary) Education

In many of the semi-advanced countries, second-level education is still narrowly academic and primarily university oriented. Only a minority of the eligible age-group are exposed to it, and there is a high drop-out rate. The average enrolment ratio of 27 percent is less than half that of the advanced countries.

Mexican secondary schools emphasize courses which stimulate national and cultural solidarity for a wide group of students, as well as technical, commercial and agricultural training within a framework of general education for those who do not go on to higher education. The academic ladder to the universities is still available, but it is no longer the sole secondary school ladder as it used to be.

With the increase in enrolments (from 11,80,000 in 1950-51 to 23,36,000 in 1958-59) and the future bulge resulting from the effort to provide free universal primary education, secondary education remains a quality bottleneck in India's programme of human resource development. And it still pushes ill-prepared students to the universities even though only about a third of those who start the four year secondary schools are enrolled in the fourth year. There is a high drop-out rate at this level in semi-advanced countries.

Although the curriculum has been modernized the Yugoslav high schools have been unable to supply sufficient pupils to fill the places available in higher education.

Greece recognised this bottleneck earlier. In 1959 educational reforms designed to modify the system in the direction of modern technical requirements for economic growth, gave special emphasis to the reform and expansion of secondary education. Besides traditional courses high schools offer diversified courses in scientific technical, agricultural and maritime studies, economics domestic economy, and foreign languages. These are in addition to a number of private technical schools training skilled workmen or higher technicians.

Egypt has made a similar effort to reform as well as to expand secondary education system. Between 1953-54 and 1960-61, the number of pupils enrolled in three year general secondary schools which generally lead to higher education increased 43 percent while enrolment in an equivalent length secondary technical education system had increased 400 percent.

As in primary education there is a shortage of competent teachers at the second level in most of these countries.

Third Level (Higher) Education

There are distinguished universities in such countries as Mexico, India, Egypt, Chile, Italy, Yugoslavia, Poland, Czechoslovakia, Uruguay and Norway. But the quality of higher education is uneven. The higher education concentration of the communist countries in higher education for science and technology is of course a reflection of the educational philosophy and goals of the Soviet Union. On the other hand difficulties in countries with a high proportion enrolled in fields not closely related to economic growth are clear. They have not sufficiently modernized their traditional systems of higher education which were designed to train an elite group either for colonial government administration (as in India) or for governments of fairly static dynastic societies (as in some Latin American countries) and Spain and Portugal. Lowered admission standards, crowded class rooms, inadequate laboratories and sub-level teaching personnel with their traditional methods are the problems to be solved by the semi advanced countries. These have created problems of student unrest and indiscipline and the vast problem of unemployment in countries like India. Until there is more wide spread recognition that college or university education is not a universal human right and that some students should be educated in other fields in other means at India's stage of development difficulties will continue.

As a part of higher education in some of the semi advanced countries there is increasing emphasis on graduate training and

research in science and technology. Furthermore, advanced scientific and technical research institutes have been established in some countries because there is need for research and development related to their industrial development. It is no longer so necessary for a less advanced country to develop its own science and technology but it is essential that it has trained scientists and engineers, with access to good research and development facilities to adopt scientific and technical discoveries and innovation from the advanced countries to their own economics and industries. These advanced research institutes are also one means of developing employed manpower.

Development of Employed Manpower

More attention is being paid than in the past to ways of upgrading the qualifications and improving the performance of people already employed in strategic occupations in semi-advanced countries. Thus in India and Egypt as well as in more advanced countries in this group such as Norway, Italy and Yugoslavia, there have been efforts to develop management training programmes, supervisory-training courses, productivity centres, institutes of public administration for employed civil servants, etc. Examples in India include the extensive programmes of the Indian Management Association and the regional management associations, the Administrative staff colleges, the Indian Institute of Public Administration, the training-within industry programme, the National productivity council etc. Norway has had a well-developed management training centre for a number of years, and Poland has established a national centre of training supervisory personnel in industry.

There is a National Institute of Management Development in Egypt, as well as a Productivity Centre.

Sub-professional education has lagged relative to professional education, with the result that there are too many engineers and scientists, doctors and agronomists relative to the technicians available. In India in 1959, a survey showed a ratio of engineering graduates to technicians (diploma-holders) of about 1:1. As a consequence of this unfavourable ratio, the estimated 1960-61 intake for diploma courses in Indian engineering faculties was twice as high as that for degree courses.

On the job training has spread more widely among employing institutions in these countries. In addition, as in other communist

countries, there is a good deal of afterwork attendance at technical institutes and universities in the area, since in Yugoslavia secondary education is no longer an essential pre-requisite for enrolment in higher education.

Apprenticeship programmes and vocational training are more advanced in semi-advanced countries generally, although there is growing recognition that vocational programmes outside the plant may not produce the skills required by expanding enterprises in the absence of close co-ordination with specific manpower needs of these firms.

In countries with agricultural sectors which are underdeveloped another type of on the job training is necessary -the improvement of farming and village self-help. The experience of India illustrates some of the difficult problems involved in raising the productivity level in agriculture by methods which took many years to develop successfully in the United States through the agricultural extension services. Village level workers in India require not only prior training but willingness to spend years in villages and rural areas rather than cities. There has been a persistent shortage of these trained people to staff expanding programmes in India.

Incentives and allocation of High Level Manpower

In contrast to salary levels for village agricultural programme personnel, the salaries paid to high talent manpower in science, engineering, and managerial positions in most of the semi-advanced countries are sufficient to attract young people to be trained for these fields. The prestige of the technically trained men is high and professional management is more highly regarded as a career than in less developed countries. Government administrative posts also carry high prestige and salaries but they are no longer the sole high-status occupations. Indeed, government salaries may now be lower than in other professions requiring equivalent education and skills. Still, however, there exists imbalances in the salary structures among the various economic and public administrative sectors in these countries.

Toward A strategy of Human Resource Development

A semi-advanced country must move ahead toward the level of the advanced countries. It will have to work out a strategy of human resource development for a ten-to twenty-year period in response to the following issue:

1. A major effort in rapid industrialization will have to be made. They should develop their own research and technical capacity to a higher point. The application of modern research methods to the improvement of agriculture is vital to these countries. Many types of high-level manpower will be required to staff research institutes, industrial establishments, experiment stations and other institutions of an advanced society.

2. Growing population continues to present policy dilemmas. The development policy should be geared to increasing economic efficiency, reducing dependence on foreign exchange, maximizing employment, or reducing birth-ratio, or some combination of these objectives. Unemployment constitutes an explosive political force which compels these countries to accelerate their rates of economic growth.

3. The legal requirement for universal primary education of at least eight years and the nature and quality of secondary education are critically important.

4. At the higher education level, increased prestige of science and engineering in the industrial world is to be ensured. Reorientation of higher education should have top priority, with increased emphasis on scientific and technical faculties (including agriculture) and relatively less on humanities, fine arts, and law. Emphasis on quality must substitute over expanding mass higher education. More post-graduate training is necessary, especially to staff research institutes. Over expansion of higher education may be politically attractive, but is disastrous for strategic human resource development. Political courage to resist popular pressures for undue expansion is the must. A positive factor working for the expansion of research is the growing recognition of science and technology in the modern world, and the element of national prestige involved in having research institutes of recognized international standing within the country.

The immediate problem of unemployed secondary school leavers and college or university graduates, poorly trained and in wrong fields might be alleviated by special adult education or vocational school programmes to retain these people as teachers, extension workers, minor administrators, and in senior classes.

5. More responsibility for training those who do not go on to higher education should be placed on employing institutions through apprenticeship, vestibule, and on the job training programmes. These efforts should be expanded even further than in earlier levels of

development, since an advancing industrial society requires a variety of skills which can only be developed adequately on the job. This training will be more productive if the trainees have had an adequate secondary education which includes some science and mathematics as well as technically oriented subjects and shopwork. Closer gearing between these types of secondary schools and the employing organisations is necessary.

6. Qualitative improvement of primary education to arrest wastage and stagnation should be planned. More resourceful and competent teachers are required for this. Flexible, appropriate, and well proportioned salary structures in the field of education as well as in other fields of development should be evolved so as to attract right man for the right job.

7. Skillful management of technical and professional personnel in work teams will also be required. A strategy of human resource development is incomplete without attention to the quality and competence of managerial manpower in employing organisations.

8. An appropriate distribution of the total educational budget might be the following : 35 percent for primary education, 40 percent for secondary education, and 25 percent for higher education of all types.

This chapter has been written on the basis of the following books :

1. Education in Britain August, 1974, Central Office of Information, London,
2. Development of Education in the 20th Century Second Edition, Adolph Meyer, Asia Publishing House, Bombay, London, N Y
3. Education, Manpower and Economic Growth 1968 Frederick Harbison and Charles A Myers Oxford and I B H publishing Co, Calcutta, Bombay, New Delhi
4. Higher Education in United States Third Edition United States Information Services

GLIMPSES
(CABE Meetings, Conferences, etc.)

Meeting of the C. A. B. E., 1954

In 1953, the C. A. B. E. set up an Implementation Committee consisting of some of its members and some distinguished educationists to report to the Board as to what recommendations of Secondary Education Commission could be implemented by the Centre and what recommendations could be implemented by the States. The report of the Implementation Committee was accepted by the C. A. B. E. in 1954. The Committee was of the opinion that the eventual pattern of education would be as follows :

- (a) Eight years of integrated elementary (Basic) education,
- (b) Three or four years of secondary education with diversification of courses,
- (c) Three years of university education after the higher secondary school leading to the first degree.

On the acceptance of the report of the Implementation Committee by C. A. B. E.; the Ministry of Education, Government of India in its letter No. F. 12-154-D. I dated 7th August, 1954 advised the State Governments to accept the new pattern of Secondary education.

C. A. B. E., 1955

The C. A. B. E. again considered the organisational pattern of secondary education in the year 1955 and came to the following conclusions .

- (a) the degree course should be of three years and 17+ should be the minimum age for entry into universities.
- (b) the end of secondary education at 17+ should mark a terminal stage in education and prepare students for life. It should also be of a standard which would enable them to participate with profit in a three year degree course.
- (c) the last class in the Secondary stage should be called the 11th class and may be reached after schooling of not less than 10 years, the actual duration of the various states to be determined by the State Governments concerned.

C. A. B. E. 1956

In 1956, the C. A. B. E. urged the speedy conversion of all secondary schools to the new pattern.

Twenty-fifth Meeting of the Central Advisory Board of Education held on 7th and 8th February, 1958 :

The Board recognized that adequate provision will have to be made to enable the school to develop suitable techniques for Urban Basic Education. The Board emphasized the urgent need for opening Basic Schools in urban areas with provision for crafts suited to urban conditions.

With regard to the reorganization of University education, the Board recommended that efforts should be made to persuade the Universities of Agra and Bombay to accept the academic soundness of the three-year Degree Course Scheme.

The Board recommended that suitable training facilities in the training colleges should be urgently provided for the training of teachers in subjects like technology, agriculture, commerce, etc.

The Board emphasized, the need to ensure without any further delay that there were no difficulties placed in the way of further education of post-basic school children and teachers turned out of Basic Training institutions.

The Board was emphatic that multi-lateral schools and post-basic schools should not be regarded as two parallel systems but as integral parts of the same system of Secondary education.

The Board recommended that facilities for appearing as private candidates at M.A., M. Sc. examinations of universities should be extended to practising teachers provided those sitting for the M. Sc. Examination had undergone training in the subject concerned in a recognized institution with adequate facilities for laboratory work in one of following three ways .

(1) By attending a special condensed course of one year's duration to be organized at suitable university centres, to which selected teachers working in Secondary Schools could be deputed for a period of one year.

(2) By attending organized vacation courses of three months' duration for two to three years in succession,

(3) By attending evening classes-

The Education Ministers' Conference held on 20th and 21st September, 1957 at New Delhi resolved that the Conference has considered the scheme for the introduction of Three-year Degree Course at the universities and is of the opinion that its implementation is essential for the improvement of university education.

1. The Government of India set up an All-India Council for Elementary Education in 1957. The council is an Advisory Body and is to consist of 23 members including 14 representative from State Governments, one representative each of the Planning Commission, Central Advisory Board of Education and the All India Council for Secondary Education and the Ministry of Community Development. There will be one Principal of a Training College and two educationists connected with the fields of Basic Education, Girls' education and education of backward classes to be nominated by the Union Minister for Education.

The Council will advise the Central and the State Governments on all matters relating to elementary education and prepare programmes for the early implementation of Article 45 of the Constitution. It will also assist in organizing research in the administrative, financial and pedagogic problems of elementary education and in the production of suitable literature for teachers and educational administrators for improving the quality of elementary education and enforcing compulsory attendance.

2. Prize-Scheme for Best Books for Neo-Literates

Since 1954, the Government of India have been awarding prizes on best books for neo-literates in all regional languages.

A Scheme of training of authors for writing literature for neo-literates and for children was launched by the Central Govt. in the First Five Year Plan.

3. National Book Trust

With a view to encouraging the production of good literature and to make such literature available on moderate prices to libraries, educational institutions and public generally, the Govt. of India set up a National Book Trust, in 1957, with 15 trustees on the Board besides a Chairman.

4. Development of Modern Indian Languages

With the gradual replacement of English, some of the modern Indian languages are faced with the question of developing them as proper

vehicles of expression and communication. Vocabularies have to be expanded and the meanings of the words standardized. The development and study of these languages is also necessary for the assessment and preservation of the cultural heritage of India. Moreover, the systematic study of the languages is a growing need in view of increase in literacy. In addition to the modern Indian languages, it has to be decided to include English in the scheme, which, in the past, has been a unifying force and has attained an international status. With the above objects in view, a scheme for the development of regional languages was approved by the Planning Commission on 29th May, 1956.

Hindi has not been included in this scheme as it has already been taken care of under a separate scheme of the Ministry.

In order to avoid duplication and overlapping with the activities of the Sahitya Academy, it has been decided that the Sahitya Academy will be concerned with the development of the literature in modern Indian languages. The present Scheme will be concerned with the development of languages as such.

The proposals to be considered under this scheme included the following :

- (1) Preparation of Scientific terminology and of books on scientific subjects or of text-books at collegiate stage.
- (2) Publication of outstanding books and editing of manuscripts so far as they contribute directly to the development of languages.
- (3) Grants to literary associations of modern Indian languages for the purpose of development of the languages.
- (4) Compilation of dictionaries in modern Indian languages or bilingual dictionaries.
- (5) Preparation of grammars of a particular language in the language itself or in other modern Indian languages.
- (6) Preparation of encyclopaedias.
- (7) Preparation of graded basic vocabularies for languages.
- (8) Preparation of common vocabularies amongst different Indian languages.
- (9) Works bringing out identities or similarities of grammar, syntax, specialized vocabularies, etc. among the different Indian languages.
- (10) Scholarships and stipends for research work or any work connected with the development of the languages as such.

5. Education for International Understanding

India has been participating in Unesco's programme of "Associated Schools Project in Education of International Understanding" which is designed to increase the teachings of the aims and objectives of the United Nations' Organisation and its specialized Agencies and education for living in a world community.

6. University Grants Commission

According to the recommendations of the University Education Commission, a University Grants' Commission, under the Chairmanship of Dr. S. S. Bhatnagar, was established in November, 1953 by a Government resolution, for the purpose of allocation and disbursement of grants to universities as well as for the purpose of co-ordination and maintenance of standards of university education in India. Early in 1956 an Act, the University Grants Commission Act, 1956 was passed by the parliament, in order to reconstitute the Commission as a statutory body. The Act was brought into operation with effect from 5th November, 1956 and with effect from the same date the Commission was reconstituted with a Chairman and eight other members.

During his two talks given at the request of External Services Division, All India Radio in 1957, Mr. Wilder Penfield, Canada spoke on the Human Brain and the learning of Secondary Languages. The extract of his talks is given below :

The Brain :

"The mind of man depends for its very existence on the brain. No conscious act is possible, no word is spoken until thought can express itself in a pattern of nerve impulses within the brain, electrical impulses that travel swiftly outward along nervous fibres to the muscles to move them.

The human brain is man's master organ, and its control of speech is what chiefly distinguishes it from the brain of other mammals.

The brain of a boy in his teens is not the same as that of a child under ten, for the brain is not a machine; it is a living, growing, changing mechanism—the complicated and astonishing of all mechanisms. During the earlier period the child is depositing, within the brain, language units which he will later utilize for all additions to his vocabulary. These are units of pronunciation and also of understanding. The unit is recorded in the nerve-cells of the brain for use in that language immediately or at some later time. These units are more than motor skills of tongue and lips; they are units of thought estab-

"In future all rural children should go to school and receive education not to give up their ancestral professions but to become better farmers, better blacksmiths and better carpenters. Education must not divert people from their heritage but enrich it.

"In urban areas also the basic pattern of education is intended to train a child to become a useful member of society and not add to the number of those who are unemployed, in some cases unemployable. There should be no bias for only white collar jobs and those educated in the basic pattern should be able to take up any profession for which they are fitted by aptitude and taste. The aim of the pattern is to create a sense of social purpose and the recognition of the dignity of labour.

"We have the largest population in the world next to China. With our vast number, there can be no solution of the problem of education except on the basic pattern.

"Secondary education is, in fact, the backbone of the entire educational system. Our traditional Secondary education was purposeless and only meant as preparation for Higher education. Secondary education is not a means but itself an end. High schools must remain for the majority the final stage of education and thereafter they will take to different services, professions, industries and trades. Secondary education, thus, must fit people for the various types of activity which society demands.

"We have appointed Commissions and Committees to examine this question from various points of view. On the basis of their study and recommendations we have now formed a new plan for secondary education. The University Education Commission had recommended a Secondary course extending for twelve years.

"Increase in the duration of the Secondary Course by one year will help to raise the general standard of education in the country. With the same end in view, we have, in consultation with state Governments, set up the All-India Council of Secondary Education.

"In most Universities in India, we have at present a two-year degree course. It has generally been recognized that this does not provide sufficiently high standard and the two-year degree course should be replaced by a three year degree course. It is proposed to do this by doing away with the present Intermediate classes, one year is to be transferred to Secondary education, the other year is to be added to the degree course to provide for a three year degree course. One of the advantages will be that this will raise the school leaving age by one

year which will mean greater physical and mental maturity for those who wish to pursue Higher education. In addition the three year degree course will promote more intensive studies and help to raise the standard in our universities.

Education is a State subject except for the co-ordination and maintenance of standards of University Education and the development of technical and scientific education, all other fields of education are purely state responsibilities. It is to ensure complete co-operation between the Centre and the States that the Central Advisory Board of Education was set up many years ago. It functioned even before independence. Since then its importance has been increasingly realised. That is why we have extended its function and scope and recognized it as the most important and responsible educational organization in the country. It is so constituted that it has representatives from the Central and the State Governments, the Parliament and also includes some of the most eminent educationists of the country. The State Governments have a clear majority in this body. It meets every year and all important educational matters are placed before it. It has also Standing Committees and sub committees which examine questions in greater detail. Its decision is regarded as the united experience and wisdom of the educationists in the country. CABE is a platform where the Centre and the State Governments meet and freely discuss common problems.

We have on the one hand to wipe out the deficiencies of the past 200 years. On the other we have to remove the lethargy of the people and hang to the town and the country side a new vision and a new energy. We cannot accomplish this task and attain our goal unless we work in a truly revolutionary spirit.

The 26th Meeting of the Central Advisory Board of Education 13th and 16th January 1959

Extracts from the address of Dr K. L. Shrimati, Union Education Minister

The principle underlying the system of Basic Education which combines education with productive work is a sound one and has recently been asserted by one of the most advanced countries—Soviet Russia. Basic education does not envisage a死 uniformity of courses and curricula all over the country. Work will certainly be the central feature in all the Basic schools but the type of work is bound to vary as needs and occupations differ from place to place. Any attempt to

mould Basic education into a formal and rigid pattern will defeat the very purpose which it has in view. There can be no dogmas and orthodoxies in a system of education which tries to meet intelligently the needs and requirements of a dynamic society.

"The tendency among the students and even among some educationists to look to High School education as an adjunct or stepping stone to higher education still persists and this tendency must be arrested by giving the students adequate preparation for suitable vocations. It is the function of the Higher Secondary School to discover their talents-academic, aesthetic, technical and give them proper guidance so that they may be suitably engaged in productive activities and thus become useful members of society. They should acquire enough vocational competence so that after a six months' or a year's apprenticeship course in a factory or a firm, they are ready to take skilled or semi-skilled occupations.

"The High Schools have concentrated mainly on general and abstract knowledge with the result that boys and girls remained detached from life and lacked knowledge of processes of production. At present society does not know how to utilize the youth of the country to the best advantage. The reform of university education is dependent largely on the re-organization of Secondary education. If the majority of boys and girls who go out of High Schools can be engaged in productive work suited to their aptitude and talent, they may not desire to go for higher education. There is at present great wastage of money and human resources in our colleges and universities".

Board's Minutes

Social education should form a part of community development programmes.

The Board considered the question of Three-Year Degree Course in the light of the Second Deshmukh Committee Report and was strongly of the view that having regard to the fact that almost all the universities and even the U.P. Government have fallen in line with the proposal and that about 18 or 20 universities have already introduced the Three Year Degree Course, the University of Bombay should also fall in line with the scheme at an early date in the interest of uniformity of standards.

With regard to the Second Deshmukh Committee, the Board resolved: "The re-organisation of secondary education is a preliminary

step to the implementation of the Three Year Degree Course. The period required for raising High School to Higher Secondary Schools, therefore, should not be extended beyond 10-15 years. The question of the continuation of the pre-university classes adopted as a transitional arrangement should be reviewed from time to time."

Rural Institutes

The Board observed that as the purpose of Rural Institutes was very important and as they provide a type of education which is suited to rural conditions, the Central Government should explore the possibility of having more Rural Institutes in different States.

Follow-up on 1958 Meeting

The following courses were being run (1959) in various rural institutes :-

- (i) Two-year Certificate Course in Agricultural Science,
- (ii) Three-year Diploma Course in Civil and Rural Engineering,
- (iii) Three-year Diploma course in Rural services.

Regarding (i) Ministries of Community Development and Agriculture have been approached (1959) to issue instructions to State Governments for the recruitment of the Agricultural certificate holders in suitable post e. g. V. L. W. S.

As regards (ii) Ministry of Scientific Research and Cultural Affairs were moved to accord recognition to the Diploma in Civil and Rural Engineering as equivalent to the National Diploma accorded by All India Council for Technical Education.

An Assessment Committee on Rural Higher Education set up under the chairmanship of Shri C. Y. Mahajan, Member, Union Public Service Commission, met on 1st August, 1958 and agreed to recommend to the Government that the Diploma awarded by the National Council should be considered as equivalent to the first degree in Indian universities for a period of 5 years in the first instance and that the Diploma holders should be eligible for all types of services under the Government where the minimum qualification is the first degree of a university. Ministry of Home Affairs has been moved to issue a circular letter to states, communicating Government of India's recognition to the Diploma and to bring the fact to the notice of State Public Service Commissions and various employing departments of State Governments.

Limits Admission to Universities

The Board considered the problem of limiting admission to universities. It reiterated the principle that access to higher education has to be regulated by adjudged capacity of students to benefit from higher education with due regard to the needs of backward communities. In order to raise and maintain academic standards and to ensure discipline it was imperative that admission to colleges should be determined according to their capacity and resources. The Board concluded that the real remedy lay in the speedy reorganisation of Secondary education, closer relationship between the employment pattern in the country and the output of graduates and the provision of a large variety of courses at the Secondary and post-Secondary levels for those not suited to university education.

Three-year Degree Course

The Committee set up by the Panel on Education, Planning Commission made the following recommendations :

(i) The Panel of Education of the Planning Commission is of the opinion that the conclusions which have been arrived at by the CABE, the Inter-University Board or other Committees appointed by the Government of India as regards the reorganisation of education, should be adhered to and given effect to in respect of Three-Year Degree Course of University Education;

(ii) Higher Secondary Schools should be started wherever possible as Multipurpose schools with Technical courses as an important stream of diversification in a phased manner as soon as possible.

(iii) As recommended by CABE and as a purely transitional measure, the pre-university course should be started followed by a three Year Degree Course and the transition should be phased and should not exceed beyond 1965.

Reorganisation of Secondary Education

The First Deshmukh Committee in their report had stated :

"The reorganisation of university courses depends on the prior reorganisation of Secondary education. To be able to shed the present first year and to introduce the Three-Year Degree Course, it is necessary that a sufficient number of existing High Schools should be raised to Higher Secondary Schools to accommodate the students who are now studying in the first year of college. In fact, opinion was ex-

ssed and quite strongly, that reform of Secondary Education should receive Government's attention first and the reform of the university education will follow as a natural corollary "

Since the pace of conversion of High Schools into Higher Secondary Schools has been rather slow and in some of the States where Universities have implemented the Three Year Degree Course the conversion has not been accelerated, universities have to introduce a pre university course of one year with a university examination at the end

The Committee feel that it will be a great pity if the required period for raising High Schools to Higher Secondary schools is extended beyond ten to fifteen years

*Proceeding of the Second State Education Ministers Conference
89 August 1959*

In the inaugural address, Dr K L Shrimati, 'Union Minister of Education, observed

' While restriction of admission to the universities has become an urgent need, steps will have to be taken simultaneously to make secondary education more practical so that it may be a terminal point for the majority of students and also by providing post Secondary vocational and technical training or apprenticeship courses for entry into various professions, trades and vocations. If we continue to neglect this aspect of education we are allowing the youth of the country to become cynical and frustrated with the result that, instead of contributing to the well being of the society, they will fall easy prey to disruptive forces. In this perilous situation we must act with a sense of urgency if Society is to be saved from a great danger.'

Several important nations in the world to day, including the USA, the USSR and China have a system of national service or conscription which makes it obligatory on all able bodied male citizens to undergo military training. For national survival it is not enough to have professional soldiers but civilian population must also participate in the tasks of national defence. The citizen armies, as they are called and as differentiated from regular forces comprise virtually the entire citizenry organized in peace time by universal obligation and trained on a part time basis."

Higher Secondary Schools

The conference resolved that upgrading of the existing High Schools to Higher Secondary Schools in the third plan is the minimum programme of reconstruction that the country should adopt. Any further reduction in this target may jeopardize the very purpose of reorganization.

Limiting the Number of Students in Universities

Dr. Deshmukh pointed out, "The UGC had been set up as a statutory body to ensure that the universities and institutions of higher learning maintained resonable standards. During the last twelve years, the standards had been deteriorating at a very alarming rate because the universities and colleges had been quite helpless to resist the pressure of "invading numbers."

Dilating on the points made by Dr. Deshmukh, the Chairman pointed out that the question really was who should proceed to the university and whether in view of the limited resources of the country there was any justification for permitting an uncontrolled increase in numbers at that stage. Apart from adversely affecting standards such a situation also resulted in colossal wastage of human material as was testified by the high percentage of failures in all university examinations.

The Rajasthan Chief Minister was of the view that the large number of unsuitable students who went in for Higher Education did so because "there are neither any vocational nor any educational opportunities open to them. It was no use thinking in terms of 'restricting' numbers so long as alternative avenues of employment and technical training were not made available.

Three Year Degree Course Estimate Committee recommended, "The State Governments may examine their budgetary position with the object of finding out how funds can be made available by suitable adjustments for the introduction of the Three Year Degree Course."

Conference of State Education Secretaries and Directors of Public Instruction / Education June, 15-16. 1961

In the inaugural address, Dr. K. L. Shrimali, Union Education Minister said :

"Free and compulsory education for the age-group 6-14 still remains our goal after we have taken this big step forward in the Third Five

Year Plan, It would be our endeavour in the Fourth and Fifth Plans not only to fulfil the constitutional directive but even to go beyond it to catch up with the more advanced countries. There is an inevitable correlation between the level of educational development and the pace of economic growth. We cannot therefore keep education on the waiting line too long without grave injury to the objective of planning for a better and more abundant life.

'I should like you to remember that few countries in the world democratically constituted have achieved the order of development which is envisaged in our plan within a comparable time and within the limitations of an undeveloped economy. The stage of self-sustaining growth was reached by the advanced countries of to day after a century long period of preparation. We have not that much time at our disposal. We cannot afford to let time take its own course. We have to force the pace if we are to reach our goal.'

'Secondary education is of decisive importance in the economy of a developing country. It has a determining qualitative influence reaching out into all important sectors. Much of the pattern of development of secondary education during the last ten years has been dictated by the sheer compulsion of rapidly growing numbers. Secondary education in the country is rapidly ceasing to be a preserve of the privileged. The growing numbers represent a greater variety and range of ability, aptitudes and needs. The qualitative improvements have therefore to meet the new pattern of needs.'

'In higher education the need for maintaining and raising the standards is of very high priority.'

'The increasing size and complexity of school organization will necessarily demand a high degree of efficiency and co-ordination. It is the duty of the administrator to ensure that our limited resources yield maximum results. At the same time we should not allow efficiency in the administration to do violence to democratic values. The line and staff pattern of administrative organisation with its hierarchy of officers, secretaries, Deputy Secretaries, Directors, Deputy Directors, etc. is probably inevitable but if proper guidance and wise leadership is provided friendship and warm human relationship may develop between the administrator and his subordinates. The purpose of good administration is not to inhibit the creative activity but to release it by providing an atmosphere suitable for its expression.'

"In our democratic frame-work, the community is an active partner in the educational endeavour. We must devise concrete measures for enlisting community co-operation. If the administrator is resourceful and has initiative and leadership, the resources of the community can be mobilised to a considerable extent for improving our school system. Apart from the material benefits, this will bring the school closer to the community and will strengthen the bonds between the two.

"If we are to evolve a national system of education, there should be opportunities for frequent consultation between the State and Central Governments. The need has become all the greater now when forces inimical to national unity and social cohesion are raising their heads and are once more attempting to defeat those constructive forces, released after freedom, which are trying to impart a new impulse to the social system. In our educational programmes we must make a determined stand against the fissiparous tendencies. The schools must become agencies for neutralising the influences of casteism, communalism, linguism and all that divides one section of the people from another. The schools must also assume the responsibility for instilling in the youth a vivid and pervasive sense of national unity."

Dr. A. N. Khosla, Member (Education), Planning Commission, who spoke next, said : "The objective of all developmental Planning is the raising of the standard of living of the masses and the satisfaction of their mounting material and spiritual requirements. The development of human resources is a part of that objective. The process of development should aim at generating creative activity and initiative among the broad masses of the people and lay emphasis on increasing per capita output. This can be possible only if our manpower has been equipped for this task through education. Education holds the key to such development.

"The object of the intensified programme of education is to build up the quality of human material which has to build up the nation and which, in fact, constitutes the nation.

"The first and most important objective of national educational policy must be to bring about national integration, a feeling of oneness, a certain cohesiveness, shared objectives, and a certain commonness which holds us together.

"Amongst the programmes accorded for national priority are science education, vocational and technical bias at all levels and technical education in all branches of science and technology. There is no

nspect of modern life that does not bear the strong imprint of science and technology. The pace of development of science and technology has determined in the past and will determine in the future the tempo of economic development in any country. It will be well to recognise that it is not so much the capital investment but the trained manpower that determines the rate of advance from stagnation to growth.

"The various schemes of educational development require a large scale mobilisation of community effort and resources. This is particularly true of the expansion at the primary school level. There is a keen educational awareness in the people. If their interest and co-operation are enlisted, it should be possible to achieve the national target of free and compulsory primary education by the end of the Third Five Year Plan in all the most backward areas in the country."

"Educational development has to be geared to promoting the objectives of social equality, social cohesion and co-operative living. The ultimate goals of economic development have to be the immediate goals of educational development."

Shri P N Kurpal Education Secretary to the Government of India, in his presidential address said "Educational administration at any time is not routine administration and more so when developmental work has to be undertaken. It requires a dynamic combination of insights into educational problems and appropriate administrative skills."

"There is an urgent need to give more attention to training up persons for various levels of responsibilities. On the job training is no doubt a very effective method of training but it is not the whole of training nor is it sufficient by itself."

"Excessive centralisation is invariably wasteful of effort."

"The content of education and its methodology must contribute to the emotional integration of our people into a strong and homogeneous society, capable of fulfilling its destiny both on the national and the international planes. This over riding objective should be reflected in the construction of the curricula in the preparation of text books and reading materials in the pursuits of all educational activities supplementing the work in the class room and in teacher training programmes. The system of education should be based on the principle of equality which is the basis of the socialist pattern of our society. This calls for adequate measures to afford special assistance to the backward areas and the poorer sections of our population along with a massive programme of scholarships at all levels of education. Education in a

free and resurgent society should contribute to the preservation and adoption of cultural values rooted in our past and the emergence of new values to facilitate and enrich the process of living in a rapidly changing world. A dynamic balance in the teaching of the humanities, and the sciences and an evergrowing concern with the quality of education are required to fulfil this objective.

"Never before in the history of mankind has there been such a wide consciousness of the importance of the education for the development of the individual and of society as is manifest to-day. The difference in the material conditions prevailing in the rich and the poor countries are less significant than the gap between the educationally advanced and the educationally backward societies and it is this gap which has to be bridged if humanity is to attain the glittering prizes which are within its reach now. The educationist has a great responsibility and I have every hope that in our own country we shall rise to the challenge of the times and accomplish even more than we have planned."

Appendix E : Introduction of Guidance Services in Schools

The aim of guidance services in schools is to individualize education in order that the true aim of education, viz., the maximum development of all the individual's potentials and his adjustment in all areas of living, may be fulfilled. Guidance Services are *sine qua non* of good education in a democratic republic like ours which is pledged to providing equal educational opportunities to all, in the sense of discovering the abilities and needs of each individual and providing educational opportunities which are best suited to his abilities and needs. The introduction of guidance services in our secondary schools acquires greater importance and urgency in the context of the multi-purpose pattern of education towards which we are moving and the manpower requirements of our country for the implementation of its vast developmental plans.

In order to set up a guidance service, a school requires the services of a full-time counsellor.

The Vice-Chancellors' Conference : New Delhi : 28-29, October, 1961

After the formal inauguration, the conference broke into three Committees : (1) a committee on standards of education, presided over by Dr. A. L. Mudaliar, (2) a Committee on Instruments of Education, presided over by the late Prof. N. K. Sidhanta and (3) a committee on

Emotional Integration, presided over by Shri K. M. Panikkar, Vice Chancellor of Jammu & Kashmir University.

1. The Committee on standards of Education recommended mainly as under :

A. Expansion of under-graduate Education in the universities

(i) The number of technical Schools, Polytechnics and Trade Schools may be increased.

(ii) It was suggested that the period of school education should be not less than 12 years and the degree courses for a period of three years.

(iii) The number of students at under-graduate level should be limited subject-wise so that the total number is restricted.

(iv) Improvement of existing colleges in preference to opening of new colleges, evaluation of standards and no desirability of automatic recognition.

(v) Universities should arrange periodical inspection of affiliated colleges to ensure that standards were not lowered.

B. Post-graduate Education and Research

(i) The proper method of developing post-graduate education was to concentrate it in centres where at least three or four colleges are available and to associate that centre with the University staff or Professors and Readers, etc., for particular subjects.

(ii) Research must be built up around personalities who have made a name in particular fields.

2. The Committee on Instruments of Education mainly recommended :

(i) A minimum pass marks in the Higher Secondary Examination be prescribed as entrance qualification to university courses.

3. The Committee on Emotional Integration recommended :

(i) Every University should reserve a certain minimum percentage of seats for students from other parts of the country.

(ii) Facilities should be provided for learning South Indian Languages.

(iii) Steps should be taken to promote religious tolerance and understanding among students and teachers.

12 + 3 Pattern was agreed to by (1) the University of Allahabad, (2) Andhra, (3) Banaras Hindu University, (4) Gujarat University (in principles), (5) Lucknow University, (6) University of the Punjab, (7) S. N. D. T. Women's University (11 + 1 PUC + 3).

Twenty-ninth Meeting of the CABE, January, 1963

During the presidential address, Dr. K. L. Shrimali, Union Minister of Education, observed :

'Prior to submission of the Secondary Education Commission's Report, the University Education Commission had recommended that the duration of the first degree course should be three years. The Secondary Education Commission also took into account the fact that the constitution had made provision for compulsory education for a period of eight years which partly covered the period of secondary education. In some of the states, the existing pattern of education was 11 plus 4 while in most of the States it was 10 + 4. The Commission would have preferred to have a uniform pattern for the whole country consisting of 8 plus 4 plus 3 but the states which had a pattern of 10 + 4 were unwilling to add one year to the whole educational system because of lack of financial resources. The Commission therefore arrived at a compromise formula and suggested that the primary and secondary stage may be 11 or 12 years followed by a three years' degree course. The Commission did not envisage that the States which were already having a total period of 15 years would reduce it by one year... The Government of Madras had suggested that the duration of the school system should be extended to 12 years instead of 11 years as at present. Undoubtedly, no one here will dispute the fact that a 12 years' school is a better preparation, both for joining the universities and for entering a vocation... If secondary education is to be a terminal stage and give a broad training in citizenship including preparation for vocation, we shall have to keep the students longer in the schools and spend more on salaries of teachers, equipment and teaching aids. Without making provision for these amenities we should be only increasing our inefficiency and further lowering the standards.

'The Rural Institutes which were started in 1956 have entered on a new phase of development by the organisation of post-Diploma Courses in Co-operation and Community Development, and by the establishment of research departments. The Diploma in Rural Services granted by these Institutes has now been recognised by most of the State Governments, the Inter University Board and many universities and has provided trained personnel for the programme of rural reconstruction.

'National integration is a psychological and educational process involving development of a feeling of unity, solidarity and cohesion in the minds of people a sense of common citizenship and a feeling of loyalty to the nation'

Regarding 'Reorganisation of higher Secondary and pre university education', the Board resolved 'While it would be desirable to have ultimately a total period of 15 years of education including 12 years of schooling before the first degree is taken and the States that can command the resources for lengthening the period of education should be encouraged to do so it is necessary that the reorganisation on the lines envisaged in the report of the Secondary Education Commission should be speeded up'

Speaking on the schemes under implementation for the Reorganization of Courses of studies in Colleges in Madras State, Sri K Samivasan Education Secretary, Madras observed The existence of a two year course located in colleges which provided a link between the end of school education and the commencement of university degree courses of study was an important feature of the old pattern of education The crux of the reorganisation scheme as recommended by the Secondary Education Commission was as follows

- (i) that the Intermediate Course of two years should be abolished,
- (ii) that one of the two years (of the abolished Intermediate course) should be added to the university degree course so as to yield a recognised three year degree course,
- (iii) that another of the two years (of the abolished Intermediate Course) should be added to the existing school course so as to result in a total school education of 11 years in some states and 12 years in others, and
- (iv) that school education should be divided into
 - (a) four years of secondary education and
 - (b) elementary education lasting for seven years in some states and eight years in others

"This was an uphill task; but it has been undertaken and carried out. By the end of the current year (1961-62), the compression of the old 11-year course into the new 10-year course would be complete.

"Thus, the concluding stage at which the re-organization in colleges and the re-organisation in schools should be tied together will be reached in 1962-63. According to the accepted scheme, a new 11th year has to be instructed in schools and pre-university course (a stop-gap hifler course of one year) should be dropped from colleges.

"The total duration of education preceding the B.A. / B.Sc. degree would be 15 years which would be divided into 5 years in colleges (the first two years in Junior Colleges) followed by three year degree course."

National Institute of Basic Education

The N.I.B.E. was set up in February, 1956 and has continued to grow since then. Its functions include research, training of field personnel, collection of statistical and other information to serve as a clearing house for information relating to Basic education and publication of literature.

Central Institute of English, Hyderabad

This institute was established by the Govt. of India in co-operation with the Ford Foundation and the British Council, in November, 1958. The institute takes up programmes of the training of lecturers of training colleges and secondary school teachers, besides research work into the problems of teaching English in this country.

Scheme of Correspondence Courses and Evening Colleges

In order to meet the genuine desire of deserving students who cannot attend regular full-time day colleges to acquire knowledge, the Government of India have included in the Third Five Year Plan of Educational Development, a scheme to assist universities to impart instruction through evening colleges and correspondence courses.

The Scheme was considered by the C.A.B.E. at its meeting held in New Delhi on 16th and 17th January, 1961. On the recommendation of the C.A.B.E., the Government of India appointed an Expert Committee, under the Chairmanship of Dr. D. S. Kothari to work out details of the scheme for instituting evening colleges and correspondence courses. The Committee made the following recommendations in the same year:

(i) The Ministry of Education should take steps as early as possible to amend the Delhi University Act in order to enable the university to start correspondence courses.

(ii) The use of TV and radio as supplementary aids should be considered in consultation with the Ministry of Information and Broadcasting. The University of Delhi would supply further information on this point at a later stage.

(iii) A sub Committee consisting of Shri R K Chhabra of the UGC and Shri I U Ramchandani of the Ministry of Education has been appointed to make a fact finding survey of evening colleges at Delhi. The sub Committee would submit a working paper to the next meeting of the All-India Committee for Correspondence Courses and Evening Colleges, and

(iv) The universities that have agreed to start Correspondence Courses and Evening Colleges should be encouraged to keep this proposals alive.

Diploma in Rural Services

The Diploma in Rural Services has been recognised as equivalent to the BA degree for purpose of employment by all the State Governments except Gujarat, Jammu and Kashmir and Orissa.

Labour and Skill Service Camps

The aim of the scheme is to inculcate a sense of dignity of manual labour amongst pupils and other youths and give them an opportunity to become familiar with village life and conditions though 'Shramdaan' for satisfying long felt needs of rural areas. The campers have benefitted by joining the camps and broadened their outlook. They have gained in self confidence and have done service to the village communities by undertaking small projects like construction of link and approach roads, levelling of play grounds, digging of foundations of the school buildings, construction of Lanchiwal Ghars, repair and desilting of ponds, disinfection of wells, digging of pits for planting of trees, seep pits and manure pits. The girl campers mostly carried out sanitation drives and did environmental service.

The Education Panel of the Planning Commission which met on 19th and 20th August 1962, decided that

(a) The duration of school course should be 12 years and not 11 years.

(h) The present was the most opportune time to give effect to (a) above; and

(c) a student should enter the university at the age of 18+.

The Vice-Chancellors' Conference which met on 28th and 29th October, 1961 discussed the same subject and suggested that for securing university degree, the period of school education should not be less than 12 years and the degree course thereafter should be for a period of 3 years.

*Thirty-First meeting of the Central Advisory Board of Education,
11th and 12th October, 1964*

In the welcome speech, Shri S. Nijalingappa, Chief Minister, Mysore, said,

"My own impression is, before a boy or a girl is 21 or 22, he or she should not become a graduate. His body must be developed, and then the mind should be developed."

In the presidential address, paying tribute to the late Prime Minister Pandit Jawaharlal Nehru, Shri M. C. Chagla, Union Minister of Education said, "He was an educationist in the technical sense of term. He realised that the greatest asset we have in this country is our human resources. It is our young boys and girls who constitute the real national wealth and he, therefore, felt that the greatest investment that we can make was investment in human beings, investment for the future-investment in education."

Shri Chagla said, "Slowing down of education in quantity or quality will be a national calamity. To-day we are spending 2.3 percent of our national income on education. This is perhaps the one country which is spending the least on education, with the only exceptions of Indonesia and Pakistan-Barring that every country in the world, however small, African countries and Asian countries, are spending more of their national income on education, than we in India...It is sometimes not realised that the industrial and economic progress of this country is closely connected with its educational progress."

"Along with expansion, along with the emphasis on quantity, we must not wholly forget that some importance has to be attached to quality...What I want is a statement (from States) to satisfy me, not that so many millions are in schools but so many million children are getting real, proper, true education. Then only I would feel that Article

45 has been complied with. The other aspect of primary education is the uneven spread of primary education. And that unevenness lies in two directions. In the first place the education of girls is lagging behind very badly. When you teach a boy you teach an individual but when you teach a girl you are teaching a whole family. The other source of unevenness imbalance is that whereas some states have forged ahead other states are lagging behind. Some have the unfortunate problem of the influx of a large number of people from across our frontiers other have backward tribes the aborigines.

'We should have special educational institutions for our gifted and talented children. I fully understand that genius is not the monopoly of the rich far from it. Rather I find more talent more ability and more dedication among the poor than among the rich but the unfortunate thing is that the poor boys never reach our best institutions because they have not means and the opportunity.'

On the whole, the success of our educational experiment depends upon whether we succeed in improving secondary education or not. The problem we have to face in secondary education is diversification. Most of our boys and girls to day have no avenues except the avenues of college or university. Before diversification takes place we must find out the aptitude of the child. Every child has an aptitude every child has a talent and it is the duty of the educator to find out his aptitude and talent.

We must resist the pressure on colleges and universities. Every student in India has a right to an I want higher education but every student has not a right to an I want collegiate or university education. Every one is not fit for collegiate or university education. Even in a socialist country like Russia the number of students who are permitted to be admitted to the universities and colleges is strictly limited. With regard to the rest they have correspondence courses parttime courses. They are particular that the standards in colleges and universities should be maintained.

'We give a boy education, he leaves the farm and wants to go the towns to get a white collar job. The result is the parents say that instead of education doing any good to him he has lost his children to the farm which needs hands in cultivating the land. Therefore our secondary education must be reoriented to make the boys work in the farms and not to go to cities no oriented towards getting better production. We must have boys to produce more, who know how to use their hands and to realise the dignity of labour.'

"We do not want to soar the number of universities. We want to consolidate and strengthen the universities that already exist.

"Then we have to deal with post-graduate departments. These are nurseries for future studies-scientists, doctors, educationists and leaders in our country. They really constitute the cream of the educational world. The standards of education can only be judged by the post-graduate departments. I am very glad that Dr. Kothari with the imagination he possesses has started a new scheme called Science Talent Projects.

"We are living in a scientific and technological world and, therefore, our boys and girls must be steeped in science. We cannot afford postponing teaching of science till they reach secondary education or university.

"To-day science is advancing so fast that we must bring up our boys and girls to realise the great adventure that is taking place, how science is going ahead.

"My appeal to teachers from this platform is : they must have a sense of dedication. They must realise the greatest challenge, that we are facing to-day, of the education of the young.

"In no country in the world can the educational problem be solved by Government alone. Government have not the resources, have not the means. It is the people, the public that must be aroused to the conscience of education and they must participate in various educational schemes".

Appendix-'K' : Agricultural and Health Education

The most important industry of the country in the private sector is Agriculture. As such it is very desirable that the younger generation of the nation be made aware of the importance of agriculture. The importance of agriculture, especially in the context of the rising population cannot be overemphasized...The few inches on the top layer of the soil is the feeding zones of plants, which provide food for men and animals, fibre for clothing and timber for shelter. It is, therefore, necessary to make the students conscious of the destruction caused by erosion to which all soils are subject under improper land use, and which, if allowed to proceed unchecked, can lead to disastrous consequences. Students must know also that when human beings interfere in the natural order of things by cutting down forests on mountains and

by destroying the sponge like properties of forest floor by cultivation, they invite the calamity of floods

School health education is the joint responsibility of both Health and Education Department

Conference of State Education Ministers Srinagar convened by the Planning Commission on June 7 1965

Inaugural address by Prof V K R V Rao, Member, Planning Commission

'There are regional imbalances both in regard to the overall expansion and in relation to the various sectors of education. Worse still is the deterioration in quality that has accompanied the increase in quantity. The rapid expansion of educational facilities has outstripped the resources of trained teachers, building and equipment. We do not have enough of proper text-books. There has been too little emphasis on the development of science education. There is also no proper balance between the provision of general and of vocational education. While there has been some diversification of education, it has not made much impact on employment. The education system is not linked to manpower needs nor is it geared to our development programmes. To add to all this, wastage and stagnation is found all along line in our educational system.'

'The first thing we want to do is to give a new orientation and a fresh purpose to the educational system. This is to establish firmly a deliberate and purposive link between education and economic development. We want to treat education as an investment in human resources which means in turn that returns are required in the form of skilled manpower geared to development needs and of the appropriate categories and right attitudes. It involves reduction of waste, and minimisation of cost consistent with improvement in quality. It also means diversification, terminalisation at suitable stages of educational system, vocational guidance and educational counselling, modernisation of outlook, inculcation of scientific attitude, building up of character, and promotion of national unity and social enthusiasm.'

Terminalisation and Diversification

If education is to be effectively linked with economic development, the educational system must have terminal points at which students can give up formal studies and take to either occupational training or actual occupation, and these points must be fixed at

stages which are not only educationally sound but also take into account the developmental needs of the country, the constraints of resources, and the observed behaviour of our school-going population. It is also necessary to have diversification of courses beyond the first terminal point so that the students leaving at the terminal point will either go in for further training or are fit to enter employment.

As a long-term objective, I would like the first ten years of schooling to be available to every boy and girl in the country, with the 10th class as the first terminal point, diversification and terminalisation following the completion of the 10th class. For immediate future, however, I would have this pattern:

Elementary Education :	4+3
or	5+2
Secondary Education :	7+3+2
or	7+4+1
or	7+3+2

the first to cover 5 years of higher secondary education upto the Intermediate standards, the second to cover the existing Higher Secondary Schools of 11 years + 1 year of pre-university class, and the third to cover the existing High Schools + 2 years of Intermediate Arts or Junior Colleges as the case may be.

The terminal points would be at the end of the 7th year, at the end of the 10th year, at the end of the 12th year, and then of course at the end of the 15th year. Diversification of courses should be provided at the end of each terminal point, the first to cover only agriculture and vocational training in manual skills, the second to cover agriculture, commerce, industrial training, technical training and other kinds of training which would lead to diplomas in different fields and prepare the students concerned to man the junior ranks of the vast agricultural, industrial, commercial, technical, administrative and teaching personnel that our developing economy requires. The third terminal point would separate those who are going in for professional education of the graduate level in agriculture, veterinary and other agricultural sciences, engineering, medicine, pedagogy, commerce, science and the humanities. The output of these has to be linked with the requirements of the economy. The fourth terminal point would be after graduation when there will be specialised M. A. and other post-graduate courses in different disciplines. Here, again, numbers have to be related to requirements of teaching, industry,

and commerce administration, research, and other relevant sectors in the economy

'It is also my opinion that there should be no need for a rigid single pattern to be imposed on the whole country. There must be room for variation and local circumstances always subject to rational procedures for equivalence and facilitating of internal mobility of students,

"I would like to point out that correspondence courses have played quite an important role in the educational system of other countries especially in the Soviet Union. It has also played an important part in the developed western countries like the USA, Sweden etc especially in providing facilities for those who wanted to combine 'earning' with 'learning'. The Central Ministry of Education and the University Grants Commission have studied this question in detail and have deliberately decided to recommend it for wide adoption during the Fourth Five Year Plan.'

During discussions on part time and correspondence Courses, Dr Elvin member, Education Commission, said In U K we have a vast structure of part time courses majority of which in the first place are in technical education institutions. We have had some difficulties in developing our own work along these lines and you may be able to avoid these difficulties when you start your programmes. One of the difficulties may be in the day release system of employees. While big industrial units can release this employee for one day every week the smaller units were not in a position to do so. We have introduced some legal obligations in this regard. Secondly, it is not only industrial firms that are concerned with part time education. As you will see in the Scandinavian countries part time education is related to all sections. Most of the people in the agriculture sector take to this sort of system. Of course, in the Scandinavian Countries agriculture is part of education at the High School level. In U K industry is collaborating with educational administration. We have recently brought industry much more intensively under the Industrial Training Act. So far 13 Industrial sectors have their local training boards.

'Correspondence courses are devoted in the country to various purposes. In the first place, we have in London a very extensive system of external degree courses Degree like BA, BSc., or whatever they may be are taken by students in these external courses without attending any institution. Many people who cannot afford to go to regular institutions take these correspondence courses. These are treated

absolutely at par with the rest. This also lessens the pressure over the universities. These Courses have some difficulties and drawbacks also. For instance, the tutor is not in a position to assess the student properly. The system of bringing these students to summer institutes, or the personal contact programmes in USSR are likely to prove useful in this context."

Dr. Kothari observed: "Firstly, education whether it is correspondence courses or full-time education or formal education, will not be of value if adequate standards are not maintained. The correspondence education as an essential part of the whole educational system is best suited to the industrialised countries. Part-time courses should not be treated as less important... Another important thing is that correspondence course education is much cheaper than full time education. In our case the cost will be one-third in the beginning. Ultimately it may be one-fifth of full-time education. This will provide a means whereby a student or a young woman or young man even in the remotest part of the country, will be able to have opportunity to receive education which will be of an adequate standard and quality.

"Education is communication between the teacher and the taught. Now this communication in the case of formal education is the classroom. It must be a two-way communication. Unfortunately, in most of our colleges, it is one-way communication because of over-crowding of classes. Tens and thousands of students pass through our colleges and universities without having an exchange of a single word between the teacher and the taught. In other words, full-time education to-day is really not full-time education, because there is no two-way communications between the teacher and the student. In part-time education and correspondence courses, this communication, takes place through the postal means. The communication is indirect. We can of course use radio and other means.

"Secondly, in the case of formal full-time education the larger the numbers, the less the efficiency. In the case of correspondence courses, the larger the number, the higher the efficiency. So our plan is that the correspondence courses are to be started not in every place but will be started by well-established universities. Courses will not be identical in content. Courses will be of the same standard as the full-time courses. There will be slight difference in content of the two courses. Teachers who write the correspondence lectures are carefully selected because to write a correspondence lesson requires very special training.

However, to organize a good correspondence course is a difficult task. It does demand greater motivation and incentive on the part of the correspondence students.

*Report of the Committee of members of Parliament on Education 1967
(National Policy of Education)*

The Committee was constituted by the Government of India on 5th April 1967.

We scrutinized only major recommendations of the Education Commission (1964-66) along with the comments of the State Governments and others thereon.

Transformation of the Educational System

From this point of view the most important and urgent reform needed is to transform the existing system of education in order to strengthen national unity, promote social integration, accelerate economic growth and generate moral, social and spiritual values.

The Teaching of Languages

Class I A. The parent has a right to claim primary education in the mother tongue of his child. Every effort should be made to meet this demand.

Only one language \wedge the medium of education should ordinarily be studied in the first sub-stage of school education covering four or five years. Facilities should be provided on an optional basis for the study of regional language when it does not happen to be medium of education. A second language should be introduced on a compulsory basis ordinarily at the beginning of the next sub-stage. The study of this language should be continued till the end of class V. A pupil may begin the study of his option of any third language ordinarily from class VIII provided that a pupil who has not studied either Hindi or English in the earlier classes shall be under an obligation to study one of these two languages at this sub-stage Classes VI-VII. At this sub-stage a pupil shall study at least one language of his choice in addition to the medium of education.

Science Education and Research

Science and mathematics should be an integral part of general education till the end of class V. The quality of science teaching should

be improved at all stages and scientific research should be promoted, particularly in the universities, and related closely to the development of agriculture and industry.

Education for Agriculture and Industry

Great emphasis should be placed on the development of education for agriculture and industry. The basic purpose of education for agriculture is to increase agricultural production by improving the competence of farmers and to that end, to promote agricultural research, training and extension. There is urgent need, in rural areas, for suitable centres or institutions providing extension services to farmers and giving part-time intensive courses to young persons who have left school and taken to agriculture.

In technical education, programmes of qualitative improvement should be stressed. Practical training in industry should form an integral part of the various courses. Technicians should be given a better status in industry and in society and institutions situated in industrial complexes should be involved intimately in their training and should specially strive to organize sandwich and part time courses.

Work-Experience

Yet another means of relating education to productivity is to include work experience which may be defined as participation in productive work in school in the home in a workshop in a factory on a farm or in any other productive situation as an integral part of general education at the school stage. This work with hands will help the young to develop insights into productive processes and use of science and technology to inculcate in them respect for manual labour and responsible work.

Character-Formation

The formation of character should receive the emphasis in the total process of education.

Pre Primary Education

Greater attention needs to be paid to the development of pre primary education. Voluntary organisations conducting pre primary institutions should receive encouragement and financial assistance, especially when they are working in rural areas, urban slums, or for

children of weaker sections of the community. Even encouragement should be given to experimentation, particularly in devising less costly methods of expansion.

The Ten Year School

It will be advantageous to have a broadly uniform educational structure in all parts of the country. The first step is to create the Ten year school providing a common pattern of general education for all children. The standard to be reached at the end of this stage should be broadly similar to that which is now reached at the secondary school leaving certificate examination. The division of this stage into sub-stages—lower primary, higher primary and lower secondary should not be rigid and should allow for variations necessitated by local conditions.

There should be a common course of general education for all students at this stage. This will include language(s), science and mathematics, social studies (which at later stages will be studied as separate disciplines of geography, history and civics), work-experience, social or national service, physical and health education and education in moral and social values. There need also be 'no essential' differentiation between the curricular programme for boys and girls.

The national policy should be ultimately to make this period of ten years (which includes the primary and the lower secondary stages) free and compulsory for all children.

Higher Secondary Education

The next stage in the educational structure is the higher secondary (or the pre-university). The duration of the academic course at this stage should be uniformly raised to two years in all parts of the country under a phased plan. The curriculum should include two languages, three subjects selected from a prescribed list, work-experience and social service, physical and health education, and education in moral and social values. It is desirable to treat this stage as a part of school education and to entrust its academic control to a single authority in each State on which the universities should have adequate representation. As a transitional measure, the attachment of these classes to colleges may be continued wherever necessary.

The duration of the vocational courses at this stage should vary according to their objectives (1-3 years). They should cover a large number of fields such as agriculture, industry, trade and commerce,

medicine and public health, home management, arts and crafts, education, secretarial training, etc. Their organisation should be elastic, allowing for full-time, part-time, and correspondence courses and a large variety of institutional arrangements. The enrolment in vocational courses should be substantially increased to cover ultimately about half the total enrolment at the higher secondary stage.

Education at this stage should be largely terminal so that a majority of students who complete class XII enter different walks of life. From this point of view, the recruitment to the lower administrative services and posts should ultimately be made from amongst those who have completed the higher secondary stage and recruitment of graduates to these posts should be discouraged by prescribing a lower age for appointment. It is desirable to select the personnel even for the superior posts under Government or in the public sector at the end of the higher secondary stage itself and then train them further at State expense.

Higher Education :

The duration of the courses for the first degree in arts, commerce and science should be three years after the higher secondary stage. Where this is only two years at present, a phased programme should be prepared for the introduction of the longer course.

Immediate and effective steps should be taken to reorganize courses and to revise and upgrade curricula at the university stage. The link between the subjects taken at the school stage and those at the first degree should be less rigid and combinations of subjects permissible for the first and the second degrees should be more elastic than is generally the case at present. Special efforts are also needed to promote inter-disciplinary studies.

The universities should define the conditions for eligibility for admission to different courses at the undergraduate stage, ineligible students being allowed to reappear at the relevant examination to earn eligibility.

Facilities for study through morning or evening colleges and correspondence courses should be provided on a liberal scale. At the post graduate stage, the selection for admission should be rigorous.

Part-time and Own-Time Education

Part-time and own-time education should be developed on a large scale at every stage and in all sectors and given the same status as

full-time education. These facilities will smoothen the transition from school to work, reduce the cost of education to the State, and provide opportunities to the large number of persons who desire to educate themselves further but cannot afford to do so on a full-time basis. In particular, greater emphasis has to be laid on the development of correspondence courses, not only for university students, but also for secondary school students, for teachers, for agricultural, industrial and other workers; and facilities should be available, both to men and women, to study privately and appear at the various examinations conducted by the boards of education and the universities.

Spread of Literacy and Adult Education

The liquidation of mass illiteracy is essential, not only for accelerating programmes of production, especially in agriculture, but for quickening the tempo of national development in general.

With a view to reducing new additions to the ranks of adult illiterates, part-time literacy classes should be organized for grown-up children (age-group 11-17) who did not attend school or have lapsed into illiteracy. All employees in large commercial, industrial and other concerns should be made functionally literate within a prescribed period of their employment and a lead in this direction should be given by the industrial plants in public sector. Similarly, students and educational institutions should be actively involved in literacy campaigns, especially as a part of the social or national service programme. The achievement of literacy should be sustained by the provision of attractive reading materials and library services to the neo-literates.

Adult or continuing education should be developed through facilities for part-time or own-time education and through the expansion and improvement of library services, educational broadcasting and television. The development of extension services in universities is of great significance in this context. In particular, the universities should organize special extension programmes to train rural leadership.

Education of Girls

There is still a wide gap in the enrolment of boys and girls at all stages. It is necessary to eliminate this gap at the primary stage, and to narrow it at the other stages.

Education of the Weaker Section of the Community

In spite of the increasing attention given, since independence, to the education of the weaker sections of the community, the gap between their level of educational development and the average for the society as a whole still continues to be very wide.

The education of the tribal people also needs more intensive efforts. Here the problems of language and sparsity of population become great handicaps for the spread of education.

At present, the definition of 'backwardness' is based on birth. It is necessary to change this and to define backwardness in socio-economic terms and to extend educational concessions and assistance, similar to those now offered to the scheduled castes and scheduled tribes, to all socially and economically handicapped persons.

PROGRAMMES OF QUALITATIVE IMPROVEMENT

Educational expansion which is so essential for national development and equalization of educational opportunity should not imply any lowering of standards. On the other hand, it should be accompanied by simultaneous efforts to raise substantially the standards of education and to keep them continually rising. At least in the crucial sectors our standards should be internationally comparable.

New Methods of Teaching

The improvement in the quality of teachers and their professional preparation should help to revolutionize the process of education by the adoption of modern methods of teaching whose chief aim is to build up proper interests, attitudes and values and whose accent is on the dignity and freedom of the individual, awakening of curiosity and promoting, love of learning, habits of self-study, capacity to think and judge for oneself and problem-solving ability. This development which is the essence of progressive and modern education should be facilitated throughout other programmes of qualitative improvement such as revision and upgrading of curricula, adequate supply of high-quality teaching and learning materials, examination reform, organization of a nation-wide programme of institutional development, provision of adequate student services and the discovery and development of talent.

Curricula and Textbooks

There is an urgent need to upgrade and improve school curricula, to increase their knowledge content and to provide adequately for the development of skills and the inculcation of right interests, attitudes and values. Similar steps are also needed at the university stage.

High priority should be given to the organization of a rich and varied programme of co-curricular activities for students at all stages.

The quality of textbooks should be kept at the highest level by attracting the best talent available through a liberal policy of remuneration and by giving special encouragement to outstanding teachers.

Examination Reform

Attention should be concentrated on three major areas: reduction of the dominance of external examination; the introduction of reforms which would make them more valid, and realistic measures of educational achievement; and the adoption of a good system of internal evaluation.

At the school stage, there should be only two public examinations—the first at the end of Class X and the second at the end of class XII (or class XI in the transitional period). Each State should have a Board of School Education (with sub-boards where needed) to conduct these examinations and to define the standards to be reached.

The public examinations, both at the school and university stages, should be improved by employing the latest methods and techniques. The time-lag between the holding of the examination and the declaration of results should be reduced and in no case should be longer than about eight weeks.

A comprehensive system of internal assessment covering all aspects of a student's growth should be introduced in all educational institutions and should be used for improvement as well for certifying the achievement of the student.

A Nation-wide Programme of Institutional Improvement

A nation-wide programme for raising standards in all educational institutions should be developed. Each institution should be treated as a unit by itself and helped to grow at its pace by preparing and implementing its own developmental plan.

These attempts at institutional improvement at the school stage can be strengthened by creating 'school-groups' for purposes of planning and development. Each school-group should consist of a secondary school with some higher primary schools within its immediate neighbourhood, each higher primary school being, in its turn, the centre for some lower primary schools near it.

In the universities, a concentration of resources--both human and material--is essential for raising standards. Each university should therefore strive to develop some centres of excellence within itself which could ultimately be raised to the status of a centre of advanced study.

Student Services, Welfare and Discipline

It is, however, essential to emphasize that violence has no place in any civilized society and especially in an academic community. If its members find it necessary to assert their democratic rights, it should be done in a peaceful, orderly and dignified manner.

Scholarships : Discovery and Development of Talent

Scientific techniques should be developed, especially at the secondary stage, to discover and develop talent of all kinds. The universities can play a useful role in this. In view of the importance of the subject and our own great traditions, special emphasis need to be placed on the nurturing of mathematical talent. In the case of exceptionally gifted children, the State should assume total responsibility for their full education. The rules and regulations regarding courses, duration of studies, admission qualifications, etc. will also have to be suitably relaxed.

The Local Authorities

It is desirable to bring the school and the community together in a programme of mutual service and support.

The Government of India

The constitution makes the Union Government directly responsible for the Central Universities, for all institutions of national importance, for the enrichment, promotion and propagation of Hindi, for the co-ordination and maintenance of standards in higher education, for scientific and technological research and for education in international relationships which includes welfare of Indian students abroad and

cultural and educational agreements with other countries. The vocational and technical training of labour is a concurrent responsibility; and so is social and economic planning which includes educational planning. The Centre also has special responsibilities for the education of the scheduled castes and tribes.

Its indirect or implied responsibilities, however, are greater still. The first is to serve as a clearing-house for educational information.

Another responsibility of the Government of India is to provide stimulating national leadership in educational development.

Yet another responsibility of the Government of India is to provide financial assistance for educational development.

The State Governments

They should provide a statutory basis for education by enacting comprehensive Education Acts which will replace all the miscellaneous laws and executive orders (e. g. grant-in-aid code) which now exist.

A PROGRAMME FOR IMMEDIATE ACTION

Priorities

In developing societies, the gap between educational needs and resources available for educational development is distressingly wide so that educational planning becomes essentially a decision on priorities.

The ten-year school, with a common curriculum of general education, should be adopted in all parts of the country. The new educational structure should be adopted as early as possible in all areas where the total duration of school and college education leading to the first degree in Arts, Commerce and Science is 15 years or more.

Work-experience and national and social service should be introduced as an integral part of all education. A beginning may be made in about five per cent of the institutions immediately and the programme should be universalized in a period of about ten years.

Science education should be emphasized and scientific research should be promoted. In a phased programme spread over about ten years, science and mathematics should be made an integral part of general education till the end of Class X.

The recruitment policies of government should be revised to reduce the pressures on higher education, and the higher secondary stage of education should be vocationalized to divert young persons into different walks of life.

Programmes which need planning, organization and human effort rather than money, e.g., promoting national consciousness, character-formation, intensive utilization of existing facilities, re-organization of courses, improvement of curricula, adoption of dynamic methods of teaching, examination reform, improvement of text-books should be developed in a big way and on a priority basis.

Essential Conditions for Success

Even with the maximum mobilization of resources for education, however, the available funds will still be inadequate and for some years to come, the development of education will be to be brought about under conditions of comparative scarcity. Several measures will have to be adopted to overcome this handicap.

Every effort should be made to utilize existing facilities most intensively so as to obtain full return on all the investment made in education.

There is urgent need for the proper planning of educational institutions to avoid overlapping and duplication and to create larger institutions which tend to be less burdensome in cost per student.

It will also be necessary to adopt new and unorthodox techniques which give quick results or reduce costs. Emphasis should be laid on such measures as the large-scale development or part-time and own-time education, the use of mass media and modern techniques, programmed instruction and the utilization of advanced students teaching the more backward ones.

Perhaps the most important measure to overcome the handicaps of an 'economy of scarcity' is to create a climate of dedication and sustained hard work so that students, teachers and administrators invest 'themselves' in their tasks to make up for the shortcomings in material resources. There seems to be pervading atmosphere of cynicism at present. But a developing country like ours cannot afford such luxuries. Idealism—for there is no better word—is needed in our country, now more than ever, in every sphere of life, and especially in education. The reconstruction of education thus presents a supreme challenge to all of us who are now called upon to create a system of education

related to the life, needs and aspirations of the people and to maintain it at the highest level of efficiency. It is upon our response to this challenge that the future of the country depends.

MINUTES OF DISSENT

By Shri R.K. Amla and Shri A.K. Chanda

We agree that it is necessary, for a stable democratic society, to have a common set of values. The common school system is, therefore, desirable. But it should be developed through persuasion and improvement of standards in the common schools and not by resort to compulsion.

By Shri Digvijay Nath

The real malaise with the present system of education in India is that it has been based on the infamous Minute of Macaulay dated February, 12, 1835, the real aim of which was clearly defined by him in the following words; "We must at present do our best to form a class who may be interpreters between us and the millions whom we govern—a class of persons Indian in blood and colour, but English in taste, in opinions, in morals and in intellect."

The basic aim of educational reconstruction in India must be to reverse the process (of education imposed during the British rule), and every effort must be made through education to eliminate this inferiority complex from the minds of the new generations in India and also to produce young men with a fully developed national personality, based on the ancient civilization and culture of our great country.

The Education Commission has put too much stress on the word "Secular". This much abused word is regarded as something sacrosanct, when the fact is that this word has a very low connotation, as it gives an idea of something mundane.

the Constitution provides for the right to freedom of religion, clearly declaring that "subject to public order, morality and the other provisions of this part, all persons are equally entitled to freedom of conscience and the right freely to profess, practise and propagate religion." Article 26 of the constitution further clarifies how these religious rights are to be exercised by the people. These Articles in the Constitution give religion a place in the political life of the country as hardly any other modern Constitution does. From all this it follows that India is not a "Secular State."

All over Europe today, there is a general tendency to reduce co-education in the higher classes, as it demoralizes the students. As against this, in India, efforts are going on in the reverse direction,

The position should be that while co-education should be confined to children upto the age of 10 or so, all education above this age must be kept separate for boys and girls.

The English language has acquired an important position in India historically whether some people like it or not. If the country is to progress in scientific, technological and medical education it will be difficult for us to do away with English entirely.

Proceedings of the thirty-third Meeting of the Central Advisory Board of Education, held in August, 1967

From : Inaugural Address by Dr. Trigun sen, Union Minister of Education

The Formulation of the National Policy on Education

"The first occasion when the Board discussed a comprehensive statement on educational policy was in 1944 when it approved the Post-War plan of Educational Development which suggested a blueprint of over-all educational reconstruction spread over 40 years. A comprehensive discussion of this type has not been held in the Board ever since, and during the last 23 years we have generally been looking at education in a piecemeal manner, stage by stage or sector by sector. We have also broadly confined ourselves to short-term programmes annual or five-yearly-and comparatively neglected the long-term policies which should underlie the short-term programmes. It was this realization which made my predecessor, Shri M. C. Chagla, appoint the Commission in 1964 to advise Government on the national pattern of education.

"It deals, as you know, with all stages and sectors of education and includes a blue-print of educational development spread over 20 years-

from 1966 to 1985 Since we are meeting to discuss this Report, the Board's session of 1967 promises to be as exciting and as significant as that of 1944.

¹ In formulating a National Policy of Education, we shall find considerable assistance in the proceedings of the Conference of Education Ministers held on 28th to 30th April '67 and in the Report of the Committee of Members of Parliament of Education (1967) which includes a draft statement on the national policy on education for the consideration of the Government of India This Committee brought together, for the first time in our recent history, leading members of all the different political parties in the country and made them sit round a table to evolve a national policy on education

Implementation of the National Policy on Education

'The formulation of the policy on education is important, no doubt but its vigorous and sustained implementation is of even greater significance

"I was very happy to find that there is a close agreement between the recommendations of the State Education Ministers and of the MPs' Committee on this subject I was also happy to find that all the three Standing Committees of the Board have endorsed their proposals I can therefore confidently say that we have been able to evolve a universally agreed programme of immediate action which can help us to make a break-through in educational development

An Appeal

"When I see what is happening in education all around me at present, my heart is filled with deep sorrow I feel very unhappy in the way in which the educational process in the classroom has almost broken down in some areas and is rapidly deteriorating in others The incidents of student unrest the continual closure of educational institutions in many parts of the country, the large scale practice of unfair means in examinations, the steady fall in teaching standards all these disquiet me not a little. But I am an incorrigible optimist. I regard all these unfortunate signs which are not confined to education alone as darkness before dawn and feel confident that we shall soon turn the corner.

The decision to switch over to the regional language is based on sound, compelling educational consideration We attained political

freedom 20 years ago. We are seriously engaged in the task of winning economic freedom. But to my mind even more important is the mental and spiritual emancipation of the nation. How can we achieve that if our educational system denies to the child his inherent right of instruction in the mother tongue?"

Prof. Samuel Mathai :- "This statement, speaks of the need to emphasize science and technology and a secular outlook and the cultivation of moral and social and spiritual values. A statement like this involves a profound begging of the question. What are the spiritual values that we encourage in our schools and colleges when, as a matter of official policy, we are told that it is perfectly right to "gherraو somebody? What do we mean by spiritual values in that context? In the early days we thought that it was a value in our national life to respect our elders, something that we called 'gurutva'."

Prof. M. V. Mathur : "I am only trying to refer to a few general points :

"This country with its vast population and long history of colonial rule is now trying to come to its own and be an honourable member of the comity of nations. This requires that we should not detach ourselves from our moorings. Indian culture has, therefore, to be preserved in the proper fashion. At the same time we have to remember that our resources are limited. Wisdom, therefore, lies in making these limited resources go the longest distance. This requires detaching ourselves from some of the beaten tracks which might have been followed in the developed countries and by us earlier. This is the revolution in education that we need.

"To me, the most important thing is the country's freedom and we have to ensure that nothing is done which could, in any way, weaken it. In order that the country's freedom is properly preserved, we should be in a position to man the various kinds of jobs which are needed for the country.

"There is nothing which is more precious in this nation than the talented people that we possess. It is these talented people who, when they become the leaders in society in various walks of life, will preserve the freedom of the country and will bring about economic growth. Therefore, we have to inject in the system something by which, at various stages we might be able to pick out those persons who show talent.

I would very much like to see good public schools in the public sector and the students who are admitted to them should be the nation's responsibility. I think the State of Bihar has already indicated the way.

'I would only point out that the Central Government has constitutional responsibility for higher education and also the necessary powers. What is needed is an exercise of the existing authority and a proper discharge of the existing responsibilities.'

'I do not want to discuss the language controversy. But let us not forget the consumer of this system the student. What is it that he needs? First and foremost a good job. At present it is English alone that gives good jobs. Until that situation is remedied the policy of educating through the regional languages will never succeed. I have seen this for the past 18 years in my University where Hindi is an optional medium. There are good students passing MA examination through Hindi medium but they feel disappointed because, even in the Hindi speaking States, proficiency in Hindi alone does not give them jobs and proficiency in English is insisted upon. We must therefore, link the language policy with the employment policy.'

"I think we should today discuss the Education Commission's Report and broadly endorse the whole flavour of its recommendations. But this cannot lead us to give any suggestion as to what the Government should do unless the Government in its turn comes back to us and really brings out the implications of the recommendations. I am afraid if we follow the path which we are following today we are going to have a flight from the real situation and I am afraid that thereby more damage is likely to be done than any good in this process."

'Education is a process which is every one knows here is not something which occurs in two or three or even four or five years; it is a process which affects the whole generation and the generation is the time constant in which the educational process can be seen to take the effect. Since Independence we have applied some of the best minds in the country. The most important bodies including the National Development Council have endorsed certain principles. Are we really doing the right thing by reopening the question of basic policy every three or four years in the hope of producing a change? Are we in fact not really contributing to complete lack of control in this whole system?'

"I would suggest that education is a stretching process. If you want to stretch the people whoever they are, this is not an easy task.

"I congratulate the Government on their decision to issue such a statement. But we have to remember two things: (1) Several statements were made in the past although in a piece-meal fashion. In fact, there is no dearth of statements. (2) What has to be stressed, however, is implementation. An unimplemented statement is worse than no statement at all.

"The whole problem of primary education is the problem of girls' education. Even at the secondary and higher stages, the problem of girls' education is important because the nation needs, not only man-power but women-power as well. Therefore, the whole problem today is the problem of girls' education. There is great need for training women teachers for teaching in the rural areas.

"If the Government of India bring out a policy statement the Centre must assume several responsibilities including finding money for the States. The Centre should treat girls' education as a national problem for some time to come.. After a national policy is announced, ultimately we are told that it is left to the States to implement it..

"I realise that all problems are not financial. When good work is done, money will come in search of the worker. That is my own experience. I am very confident that we can bring money; but the bottlenecks are more administrative in character. This is especially so in dealing with voluntary organizations.

"The immensity of the problems as well as the immensity of the population with which we want to deal are such that there can be no question of one unified policy being followed everywhere. To think of education for 500 million people in one common pattern is as dangerous as to think of feeding 500 million. There must be variety and diversity in regard to matters pertaining to education, so that all people can and should be educated in the lines on which they seek to educate themselves.

"Unfortunately, at all stages there is an attempt to petrify education, more so in the primary and secondary stages. We have dealt with these factors in our reports.

"The main principle has been forgotten, that education must find its roots in the soil. As my friend Dr. Sarabhai said, it is the soil that must be cultivated and it is the seed that must grow in that soil

to luxuriant growth You cannot possibly get a child educate itself by forcing this or that particular method of education

'It is no use thinking of the products of the universities as not satisfying the standard because the persons who come to the university are so badly handled in the primary and secondary stages that it is an uphill task and only a few can develop

'This is the change that is required so far as our educators are concerned freedom to work on the lines on which they ought to proceed and freedom to impart education in the best manner possible not regimentation of ideas

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"Education is a subject that always gets finances if you go the right way about As a university man I can tell you that during the last 20 years 100 colleges have been started by private managements and the total amount spent on this is something like Rs 12 15 crores all of private money, not of state money, it is more now perhaps on account of the increased value of land and many other things If therefore, we approach education properly there will be no difficulty in getting financial aid I am much more for that sort of financial aid to be got from the public, the public sector only helping education

They have their own views about it At present the young students are in a rebellious mood

'But I can tell you this after many years of experience with students that if the right approach is made and if administrative authorities do not interfere with the policy of education of the students there will be less indiscipline than there is at present

'Above all in the present conditions when this country is facing grave danger in east west and north I do not say south but I never know danger may come even in the south I do feel that what is essential is integration of the nation from the point of preserving, safeguarding and keeping the integrity and the future of this country and the future of this nation Let us all strive for getting unity in essentials diversity in non essentials and clarity alone all in everything that we do

'(That is, in other words) A graduate at the average age of 18 or 19 is likely to be intellectually less mature and less capable of dealing with the problems of expanding knowledge than a graduate at the age of 21 or 22

"Another aspect is employment aspect which is also affecting this. If we are going to turn our graduates in this rapidly increasing number, naturally they cannot find jobs.

"Our engineers to-day cannot find jobs, and now they are all on strike because their salaries are so low.

"We have a problem. We expand facilities very rapidly and the quality of the stuff that is brought in is very poor. The seed that Dr. Sarabhai referred to is itself, I think, suffering damage in the course of years.

"If I may suggest, the cultural, moral and social values, all have a certain common fibre running through them, i.e., the fibre of character And, the character is the most secular thing.

"I, therefore, lay greater emphasis on education of teachers and on the rejection of those not fit to act as good enough teachers in this context.

"The word 'character' leads to mental discipline also.

"Lastly, I would suggest, being busy is important. Let the student be busy with his studies or with sports.

"Students should also be encouraged in Shramadan. "'Shrama' is Dharma", is a good motto to propagate, if possible.

"Now a young generation is coming up from all sections of society. They have their social and economic problems, which need proper handling. Such problems need careful planning and they cannot be left to laissez-faire, or the sweet will of any individual or group. We must realise that, if we want a good thing like compulsory primary education we must make the hard decision to forego something else. That is the hard reality.

"While there is autonomy in the universities, while there is some autonomy in the colleges, the largest number of complaints of indiscipline we have received are from the colleges and the universities.

"We will not reach the goal through inaction. The goal will require a certain human effort on our side and that effort will have to be put in as a collaboration between the educationist and the administrator.

"Education is a living organic process affecting the whole life of the nation. We can think of new directions, we can think of new programmes, but there can be no thinking about changing things lock, stock and barrel. It is not possible. So the idea of the growing seed

and the soil are important and the Education Commission has emphasised all this. So, when they say in their report that education should be revolutionised, all that it means is that there should be a new concern for education and this new concern should be reflected in our programme and in our actions.

"Now looking back at the past experience, it is quite clear that policy-making and implementation have been divorced from each other."

"Moreover, planning cannot be confined only to education which must be part of the national plan. Some of our failures have occurred because somehow our educational plans were not properly related to other sectors (for instance, employment of resources)."

"What we need is unity and strength, unity contributing to strength and strength being made of the moral and material fibre of the people. We should make room, in this policy statement, for the co-operative efforts of all. Such a policy statement may be difficult to formulate in a day or two."

Decision of the Board

The Resolution was adopted.

PARAGRAPHS XXVIII—XXIX

THE TEN YEAR SCHOOL, HIGHER SECONDARY EDUCATION AND HIGHER EDUCATION

Dr A. L. Mudhar

"Let me come to this 10 or 11 or 12 years. Why is it that it is 10 years in some States and 11 years in others? We found the greatest difficulty with regard to West Bengal. They had a 10-year schooling which had been accepted as equal to 11-year schooling of Madras and the other States in the South. We therefore, felt that it would be an additional burden on such schools to add two more years. They started a little late at 6 whereas we started at 5 and 5 plus, so that the real difference was at the primary stage, at the primary stage, they had a 4 year schooling and we had a 5 year schooling. The 6 years were more or less common to all the schools. That is an important thing and not that there should be a 10 year schooling or 11-year schooling. The content was given at a little later period of age."

"Now there has been a lot of criticism as to why the potte n should not be uniform. What is necessary is to have a uniform standard of achievement. We felt that in those schools where there was 11-year

schooling in Madras, we should add one year. But, as I told you, the conditions were not propitious for efficient training to be given and therefore the idea, as a transitional measure mind you is a transitional measure of having one year calling it as pre-university stage was conceived. A great deal of comment has been made on one year being as a pre university stage.'

Dr D S Kothari

"Let us consider this point about duration. The modern trend everywhere, in the Soviet Union or the USA, is to give a given amount of education to attain a given standard in the minimum possible time. There is a 12 year school system in the USA but in good schools, students are encouraged to do a part of the college work so that having completed 12 years they get advance placement—that means not in the first year of the degree course but in the second year. In the Soviet Union there is the 11 year school system and they have switched over to 10-year system not 10 years everywhere."

"What we should aim at is to try to reach a certain national standard at the school stage. Having done so let us not go after mechanical uniformity."

Shri J P Naik

'Even where there is 14 years period for the first degree, please do not disturb your three year degree course but have a phased programme for raising the duration of the school stage to 12 years. If the higher education committee would have no objection, would appeal to them to accept the School Committee proposals so that we can have a broad agreement.'

"To-day the position is that out of 17 States half the States have 15 year period. For them it is a comparatively easier matter to fall in line with this pattern. In seven States it is 14 years and the adoption of this new pattern will mean the addition of one year. What is recommended by the Education Commission, MPs' Committee and the Education Ministers' Conference is that ultimately these States will have to add one year and they will have to prepare suitable programmes for phasing over but the phasing over should not disturb the three year degree course. In U P which is the only State where this problem arises they would keep the 12 year school course intact and change the two year degree course into a three-year course. They should not reduce it to two years, because that would be a retrograde step."

"There would certainly be agreement on the general principle that transition should be brief. But it will be very difficult for this body to take a decision now whether it should be in the year 1970 or 1971. It would be very difficult. I am afraid the position may vary from State to State. Some may take a longer time to implement."

Dr. A. C. Joshi

"I would like to speak on two points. One is the cost of change-over. In Madhya Pradesh, for instance, when they introduce in the 11-year school course, the 10 plus 2 pattern, there will be an examination after the 10th class. Some students will fail. After the examination some will take vocational courses, such as agriculture, polytechnic or teachers' training. So, the number of students in class 11 will get reduced and that will be so in class XII. Therefore, as far as the total number of students is concerned, it will be much less. Hence the cost of change-over to the new pattern would be marginal because of the reduction in number of students. Secondly, it would be a good thing to fix the year by which the change could be brought forward, we can say by about 1975. U.P. is a tricky problem for us to solve. It would require a lot of money. But by 1975, this change should be brought about."

Prof. M. V. Mathur

"But we should not hurry up from 14 to 15 years, unless we are prepared to finance it from the Central Government. Otherwise, let it take its own course."

Decision of the Board

The pattern 10 + 2 + 3 should be adopted by 1975. An intensive effort should be made to get additional support for education during 1968-69.

Education Minister, Rajasthan

"Considering the recommendations of the Education Commission, the recommendations of the Tenth Conference of State Education Ministers, the Report of the Committee of Members of Parliament on Education (1967), and taking into account the discussions during the thirty-third session of the Board, and the Report of its Standing Committee, the Board requests its Chairman, the Union Minister of Education, to formulate a draft statement of National Policy on Education. The Board further requests its Chairman, the Union Education

Minister, to transmit this draft statement to the State Education Ministers as early as possible so that their comments are available for the finalization of the Government of India's Resolution on the National Policy on Education."

The resolution moved by the Education Minister of Rajasthan was unanimously adopted.

"Agricultural polytechnics providing different courses needed for agricultural or agro-industrial development should be established. The curriculum in these institutions should aim at building up a spirit of self-reliance and self-employment in the students. The present tendency to depend entirely on Government jobs should be discouraged. There is urgent need, in rural areas, for suitable centres or institutions providing extension services to farmers and giving part-time intensive courses to young persons who have left school and taken to agriculture."

Resolution of the State Education Ministers' Conference, April, 1967 on structure of Educational System

The conference considered the structure of the educational system recommended by the Education Commission and the various comments thereon received from the State Governments and others. It recommends the following pattern for general adoption:

- (1) The educational structure should have the pattern of 10 + 2 + 3.
- (2) The ten-years-schools (*to be designated as the High Schools*) should be adopted in all States. This will provide a common programme of general education and specialisation will be postponed till after Class X. The standard to be reached at the end of this course would broadly be similar to that which is reached at the school leaving stage at present.
- (3) The division of this stage into sub-stages should not be rigid and freedom may be permitted to the States to adopt a sub-division most in keeping with local conditions and traditions.
- (4) The next stage of two years (*to be designated as the higher secondary stage*) should include two years of general education. The vocational courses at this stage, [these would broadly cover 50% of the total enrolment and would be spread over varying durations (1-3 years) depending upon the nature of the courses at this stage] may be located to begin with, in selected secondary schools or attached to colleges. The vocational courses at this stage will ordinarily be provided in special institutions which will, where necessary, work in close collaboration with

the industry concerned. The experiment of 'Junior Colleges' which will provide both general and vocational courses at this stage may also be tried.

(5) There should be an attempt to define national standards to be reached at the end of the 10 years' school of general education and again at the end of the 12 year school of general education. The different States should try to reach these standards at least.

(6) The education of the courses for the first degree in Arts, Commerce and Science should be 2 years after the higher secondary for general courses. It should be three for general (Honours) and special courses.

(7) The duration of the MA/MSc/MCom. courses should be two years after the general (honours) or special courses of three years after the general course. The adoption of this pattern should be made on all-India basis and all the States should agree and implement the programme. Adequate Central assistance should be available to the States to implement this programme.

NATIONAL POLICY ON EDUCATION

The Resolution Issued by the Government of India on the Report of the Education Commission

Education has always been accorded an honoured place in Indian society. The great leaders of the Indian freedom movement realized the fundamental role of education and throughout the nation's struggle for independence, stressed its unique significance for national development. Gandhiji formulated the scheme of Basic Education seeking to harmonize intellectual and manual work. This was a great step forward in making education directly relevant to the life of the people. Many other national leaders likewise made important contributions to national education before Independence.

and scientific research received special emphasis. Towards the end of the Third Five Year Plan, a need was felt to hold a comprehensive review of the educational system with a view to initiating a fresh and more determined effort at educational reconstruction; and the Education Commission (1964-56) was appointed to advise the Government on 'the national pattern of education and on the general principles and policies for the development of education at all stages and in all aspects.' The Report of the Education Commission has since been widely discussed and commented upon. The Government is happy to note that a general consensus on the national policy on education has emerged in the course of these discussions.

3. The Government of India is convinced that a radical reconstruction of education on the broad lines recommended by the Education Commission is essential for economic and cultural development of the country, for national integration and for realizing the ideal of a socialistic pattern of society. This will involve a transformation of the system to relate it more closely to the life of the people, a continuous effort to expand educational opportunity, a sustained and intensive effort to raise the quality of education at all stages, an emphasis on the development of science and technology; and the cultivation of moral and social values. The educational system must produce young men and women of character and ability committed to national service and development. Only then will education be able to play its vital role in promoting national progress, creating a sense of common citizenship and culture, and strengthening national integration. This is necessary if the country is to attain its rightful place in the family of nations in conformity with its great cultural heritage and its unique potentialities.

4. The Government of India accordingly resolves to promote the development of education in the country in accordance with the following principles;

(1) Free and Compulsory Education

(2) Status, Emoluments and Education of Teachers

(a) Of all factors which determine the quality of education and its contribution to national development, the teacher is undoubtedly the most important. It is on his personal qualities and character his educational qualifications and professional competence that the success of all educational endeavour must ultimately depend. Teachers must therefore, be accorded an honoured place in society. Their emoluments and other service conditions should be adequate and satisfactory, having regard to their qualifications and responsibilities.

(b) The academic freedom of teachers to pursue and publish independent studies and researches and to speak and write about significant national and international issues should be protected.

(c) Teacher education particularly in-service education should receive due emphasis.

(3) Development of Languages

(a) Regional Languages The energetic development of Indian languages and literature is a *sine qua non* for educational and cultural development. Unless this is done the creative energies of the people will not be released, standards of education will not improve, knowledge will not spread to the people and the gulf between the intelligentsia and the masses will remain, if not widen further. The regional languages already in use as media of education at the primary and secondary stages Urgent steps should now be taken to adopt them as media of education at the university stage.

(b) Three Language Formula At the secondary stage the State Government should adopt and vigorously implement the three language formula which includes the study of a modern Indian language preferably one of the southern languages apart from Hindi and English in the Hindi speaking States, and of Hindi along with the original language and English in the non Hindi speaking States. Suitable courses in Hindi and/or English should also be available in universities and colleges with a view to improving the proficiency of students in these languages up to the prescribed university standards.

(c) Hindi Every effort should be made to promote the development of Hindi. In developing Hindi as the link language due care should be taken to ensure that it will serve as provided for in Article 351 of the Constitution, as a medium of expression for all the elements of the composite culture of India. The establishment, in non Hindi

States, of colleges and other institutions of higher education which use Hindi as the medium of education should be encouraged.

(d) Sanskrit : Considering the special importance of Sanskrit to the growth and development of Indian languages and its unique contribution to the cultural unity of the country, facilities for its teaching at the school and university stages should be offered on a more liberal scale. Development of new methods of teaching the language should be encouraged, and the possibility explored of including the study of Sanskrit in those courses (such as modern Indian languages, ancient Indian history, Indology and Indian philosophy) at the first and second degree stages, where such knowledge is useful.

(e) International Languages : Special emphasis needs to be laid on the study of English and other international languages. World knowledge is growing at a tremendous pace, especially in science and technology. India must not only keep up this growth but should also make her own significant contribution to it. For this purpose, study of English deserves to be specially strengthened.

(4) Equalization of Educational Opportunity

Strenuous efforts should be made to equalize educational opportunity.

(a) Regional imbalances in the provision of educational facilities should be corrected and good educational facilities should be provided in rural and other backward areas.

(b) To promote social cohesion and national integration the Common School System as recommended by the Education Commission should be adopted. Efforts should be made to improve the standard of education in general schools. All special schools like Public Schools should be required to admit students on the basis of merit and also to provide a prescribed proportion of free-studentships to prevent segregation of social classes. This will not, however, affect the rights of minorities under Article 30 of the Constitution.

(c) The education of girls should receive emphasis, not only on grounds of social justice, but also because it accelerates social transformation.

(d) More intensive efforts are needed to develop education among the backward classes and especially among the tribal people.

(e) Educational facilities for the physically and mentally handicapped children should be expanded and attempts should be made to develop integrated programmes enabling the handicapped children to study in regular schools.

(5) Identification of Talent

For the cultivation of excellence it is necessary that talent in diverse fields should be identified at as early an age as possible and every stimulus and opportunity be given for its full development.

(6) Work experience and National Service

The school and the community should be brought closer through suitable programmes of mutual service and support. Work experience and national service including participation in meaningful and challenging programmes of community service and national reconstruction should accordingly become an integral part of education. Emphasis in these programmes should be on self help, character formation and on developing a sense of social commitment.

(7) Science Education and Research

With a view to accelerating the growth of the national economy, science education and research should receive high priority. Science and mathematics should be an integral part of general education till the end of the school stage.

(8) Education for Agriculture and Industry

Special emphasis should be placed on the development of education for agriculture and industry.

(a) There should be at least one Agricultural University in every State. These should as far as possible be single campus universities, but where necessary they may have constituent colleges on different campuses. Other universities may also be assisted, where the necessary potential exists to develop strong departments for the study of one or more aspects of agriculture.

(b) In technical education practical training in industry should form an integral part of such education. Technical education and research should be related closely to industry encouraging the flow of personnel both ways and providing for continuous co-operation in the provision, design and periodical review of training programmes and facilities.

(c) There should be a continuous review of the agricultural, industrial and other technical manpower needs of the country and efforts should be made continuously to maintain a proper balance between the output of the educational institutions and employment opportunities.

(9) Production of Books

The quality of books should be improved by attracting the best writing talent, through a liberal policy of incentives and remuneration. Immediate steps should be taken for the production of high quality textbooks for schools and universities. Frequent changes of textbooks should be avoided and their prices should be low enough for students of ordinary means to buy them.

The possibility of establishing autonomous book corporations on commercial lines should be examined and efforts should be made to have a few basic textbooks common throughout country. Special attention should be given to books for children and to university-level books in regional languages.

(10) Examinations

A major goal of examination reforms should be to improve the reliability and validity of examinations and to make evaluation a continuous process aimed at helping the student to improve his level of achievement rather than at 'certifying' the quality of his performance at a given moment of time.

(11) Secondary Education

(a) Educational opportunity at the secondary (and higher) level is a major instrument of social change and transformation. Facilities for secondary education should accordingly be extended expeditiously to the areas and classes which have been denied these in the past.

(b) There is a need to increase facilities for technical and vocational education at this stage. Provision of facilities for secondary and vocational education should conform broadly to the requirements of the developing economy and real employment opportunities. Such linkage is necessary to make technical and vocational education at the secondary stage effectively terminal. Facilities for technical and vocational education should be suitably diversified to cover a large number of fields, such as agriculture, industry, trade and commerce, medicine and public health, home management, arts and crafts, secretarial training, etc.

(12) University Education

(a) The number of wholetime students to be admitted to a college or university department should be determined with reference to the laboratory, library and other facilities and to the strength of the staff.

(b) Considerable care is needed in establishing new universities. These should be started only after an adequate provision of funds has been made for the purpose and due care has been taken to ensure proper standards.

(c) Special attention should be given to the organization of post-graduate courses and to the improvement of standards of training and research at this level.

(d) Centres of advanced study should be strengthened and a small number of clusters of centres aiming at the highest possible standards in research and training should be established.

(e) There is a need to give increased support to research in universities generally. The institutions for research should as far as possible function within the fold of universities generally or in intimate association with them.

(13) Part time Education and Correspondence Courses

Part time education and correspondence courses should be developed on a large scale at the university stage. Such facilities should also be developed for secondary school students for teachers and for agricultural industrial and other workers. Education through part time and correspondence courses should be given the same status as full time education. Such facilities will smoothen transition from school work promote the cause of education and provide opportunities to the large number of people who have the desire to educate themselves further but cannot do so on a full time basis.

(14) Spread of Literacy and Adult Education

(a) The liquidation of mass illiteracy is necessary not only for promoting participation in the working of democratic institutions and for accelerating programmes of production especially in agriculture but for quickening the tempo of national development in general. Employees in large commercial industrial and other concerns should be made functionally literate as early as possible. A lead in this direction should come from the industrial undertakings in the public sector. Teachers and students should be actively involved in organizing literacy campaigns, especially as part of the Social and National Service programme.

(b) Special emphasis should be given to the education of young practising farmers and to the training of youth for self employment.

(15) Games and Sports

" Games and sports should be developed on a large scale with the object of improving the physical fitness and sportsmanship of the average student as well as of those who excel in this department. Where playing field and other facilities for developing a nation-wide programme of physical education do not exist, these should be provided on a priority basis.

(16) Education of Minorities

" Every effort should be made not only to protect the rights of minorities but to promote their educational interests as suggested in the statement issued by the Conference of the Chief Ministers of States and Central Ministers held in August 1961.

(17) The Educational Structure

It will be advantageous to have a broadly uniform educational structure in all parts of the country. The ultimate objective should be to adopt the 10+2+3 pattern, the higher secondary stage of two years being located in schools, colleges or both according to local conditions.

5. The reconstruction of education on the lines indicated above will need additional outlay. The aim should be gradually to increase the investment in education so as to reach a level of expenditure of 6 per cent of the national income as early as possible.

6. The Government of India recognizes that reconstruction of education is no easy task. Not only are the resources scarce but the problems are exceedingly complex. Considering the key role which education, science and research play in developing the material and human resources of the country, the Government of India will, in addition to undertaking programmes in the Central sector, assist the State Governments for the development of programmes of national importance where coordinated action on the part of the States and the Centre is called for.

7. The Government of India will also review, every five years, the progress made and recommend guidelines for future development.

Inaugural address at the thirty fourth meeting of The Central Advisory Board of Education 11 12 October 1968

By DR TRIGUNA SLV, Union Minister of Education

Review of Main Educational Developments in the Last Year

It may be recalled that you considered the recommendations of the Education Commission the tenth Conference of State Education Ministers and the Committee of Members of Parliament on Education (1967) and recommended that the Government of India should issue a Resolution on the National Policy on Education on the broad lines of your recommendations. The Ministry of Education then discussed these proposals further in the Vice Chancellors' Conference held in September, 1967 and in both Houses of Parliament. After all this nation wide debate was over and after taking into consideration all the different viewpoints put before it, the Government of India has finally issued a Resolution on the National Policy on Education, copies of which have already been circulated to you. I believe that this is an essential step well taken and that it will provide us with a broad compass to guide our efforts at educational reconstruction.

Fourth Five-Year Plan

"In my opinion, therefore we must do all we can to maximise the total investment in educational development. The Government of India will have to expand its Central Sector. The State Governments in their turn, will have to give high priority to education and make as large allocations to it as possible. These should under no circumstances be less than about 10 per cent of the State Plans. In addition efforts should also be made to raise the maximum contribution possible from other sources such as local authorities, voluntary organisations and local communities.

While I do plead for higher allocations, I must also emphasise another aspect of the problems namely the urgent necessity to reduce wastages and to economise costs. In education we must learn to place a much greater emphasis on the returns we obtain rather than on the investments we make. Poor as we are, and small as is the investment we now make in educational development we all know that there is a good deal of wasteful and ill effective expenditure even in the present system. Our rates of waste and stagnation are high at all stages and especially at the primary stage. The unit cost per student is often high because the institution is of an uneconomic size or is wrongly located.

or because no attempt has been made to try out alternative techniques of development and choose the one which would be most economic and effective. Even rich countries will not be able to afford such 'wasteful expenditure; and it has obviously no place whatsoever in a poor country like India.

"Side by side, we must emphasise yet another aspect of educational development which has been comparatively neglected in the past, namely, the need to stress human effort rather than monetary investment. The programmes I have in view in this context include: revision of curricula; adoption of improved methods of teaching and evaluation; improvement of textbooks; production of instructional materials of high quality; improvement of supervision; and bringing the school closer to the community through programmes of mutual service and support. Even these programmes will need some investment in financial and physical terms, no doubt. But this is comparatively limited and what they need most is hard, original thinking and sustained and dedicated effort.

"I feel that the key to the success in this programme is the teacher. In the first three five-year Plans, teachers were not effectively involved in formulating and implementing educational plans. We must now make earnest efforts to do so. Side by side, we must take steps to improve their professional preparation, status and remuneration.

"We will have to adopt a broad-based and decentralised system of educational planning under which well-co-ordinated plans would be prepared at the institutional, district, State and national levels, strengthen institutions like the NCERT and the State Institutes of Education which are charged with the responsibility of academic improvement of education, involve selected university departments in improved programmes of school education and generally strengthen educational administration.

"A National programme has been defined, in the Government Resolution on the National Policy on Education, as a programme of national importance in which coordinated action on the part of the Government of India and the State Governments is called for. Obviously, the national programmes to be implemented will vary from time to time; and it will be a responsibility of the Centre and the States to sit together and decide the national programmes to be implemented in each Five Year Plan.

National Integration

"The National Integration Council has made a number of important recommendations at its Srinagar meeting held in June, 1968. We have to consider how these could be implemented expeditiously.

"An important recommendation of the Council is that the entire educational system, from primary to postgraduate stage, should be reoriented to serve the purpose of creating a sense of Indianess, unity and solidarity, to inculcate faith in the basic postulates of Indian democracy and to help the nation to create a modern society. This will need an overhaul of curricula, text-books and instructional materials at all stages.

"Another important recommendation of the Council is that the common school system, as recommended by the Education Commission, should be adopted as early as possible. This will need, as pointed out in the Government Resolution on the National Policy on Education, a two-fold programme of action. On the one hand, the standard of education in the general schools will have to be improved, giving special attention to rural and other backward areas, and a deliberate attempt will have to be made to set up good schools in under-privileged areas. On the other hand, the segregation that now takes place in the special schools which charge high fees will have to be eliminated by requiring these schools to admit a certain proportion of students, selected on the basis of merit, as free scholars. There can also be other alternative approaches to the creation of a common school system which is our accepted goal.

"The Council has emphasized the need to reduce regional imbalances. In so far as imbalances of educational development at the State level are concerned, the Government of India has decided to give a special grant-in aid to all backward States. This will mean, in practice, that 10 per cent of the available Central assistance will be distributed, on some equitable basis, only among those States whose income per head of population is below the national average.

"The State Governments, on their part, will have to reduce the imbalances at the district level, the imbalances between urban and rural areas, and the imbalances between different social groups".

MINISTRY OF EDUCATION

CENTRAL ADVISORY BOARD OF EDUCATION

(34th Meeting)

Vigyan Bhawan, New Delhi,

11th and 12th October, 1968

RESOLUTIONS

I. Implementation of the National Policy on Education

1. National Education Policy : A Significant and welcome Decision : The Board places on record its keen appreciation of the action of the Government of India in issuing, for the first time since Independence, a Government Resolution on the National Policy on Education. Keeping in view the contents of the Resolution and the background of extensive consultations, among others, with Members of Parliament, the State Governments and universities that preceded it, the Board recognises that the Resolution represents the first important effort to identify educational priorities at the national level.

2. Conditions Essential for Effective Implementation : For the effective implementation of the National Policy of Education it is necessary to make the general climate in the country more favourable to education and to educational progress. This is a matter of the highest importance and must receive the earnest attention of authorities, both at the Centre and in the States.

3. The Board wishes to emphasise that effective implementation of the National policy on Education will require provision of adequate resources. The Board therefore urges upon the National Development Council, the Planning Commission, the Union Ministry of Education and the State Governments to make the necessary resources available for this purpose. It also recommends that every effort should be made to supplement public funds allocated to education from other sources such as local authorities, voluntary organisations or public contributions.

4. Investment of monetary resources is necessary but not sufficient for educational development which requires the harnessing of human resources to the fullest extent possible. There should, therefore, be greater emphasis of programmes which need human effort rather than monetary investment. These, for instance, include : revision of curricula; preparation of instructional material; discovery and diffusion of new methods of teaching and evaluation related to the objectives specified

in the National policy on Education, encouraging initiative and experimentation on the part of teachers and administrators; bringing the school and the community closer together through programmes of mutual service and support; improvement in guidance and supervision; etc. The Board recommends that the Central and State Governments should take all steps necessary to this end, such as, effective involvement of teachers, strengthening of State Education Departments, creating or strengthening the necessary institutional structures for these programmes of qualitative improvement at the national, State and district levels and adopting a broad-based and decentralised system of educational planning.

5. A Minimum National Programme : The Board recommends that in the Fourth Five Year Plan, special attention should be given to the implementation of the following as a minimum national programme:

- (a) Fulfilment, as early as possible, of the directive principle of State policy to provide free and compulsory education : this should be implemented in the age-group 6-11 in the first instance and then extended to the age group 11-14. Education of girls and of the backward classes and the provision of educational facilities in backward areas will need special attention.
- (b) Programmes for promoting national integration, including the effective implementation of the three-language formula.
- (c) Improvement of the status, remuneration, general education and professional preparation of school teachers.
- (d) Adoption, as early as possible, of a uniform pattern of $10 + 2 + 3$ on the lines recommended by the Education Commission.
- (e) Book development programmes, particularly the production of university-level books in different Indian languages to facilitate change-over from English to these languages as media of education; and
- (f) Expansion and improvement of science education.

II. Formulation Of The Fourth Five Year Plan

The Board particularly welcomes the declaration contained in the National Policy on Education : "In addition to undertaking programmes in the Central sector, the Government of India will also assist the State Governments in programmes of national importance where co-ordinated action on the part of the States and the Centre is called for".

10. Elementary Education : The Board generally approves of the proposals of the Planning Group in this regard, subject to the following observations :

(a) The targets of enrolments suggested by the Planning Group, namely, 180 lakh additional pupils in the age-group 6-11 and 70 lakh additional pupils in the age-group 11-14, are the minimum required.

(b) Additional provision should be made for special programmes to promote girls' education.

(c) Particular emphasis should be placed on the elimination of wastage and stagnation, especially in the lower classes.

(d) Adequate incentives should be provided to the teachers to enable them to contribute their best.

(e) The resources of the community should be mobilised in a larger measure, both as an end in itself and as a means to augment public funds allocated to education. In particular, steps should be taken to utilise the services of part-time voluntary workers, especially educated women, in the community.

(f) The double-shift system takes two forms in practice. In the first, it aims at making a maximum use of existing facilities like accommodation, equipment, etc. but provides separate groups of teachers. In the other, the same teacher or group of teachers teach different sets of pupils. There is no objection to the adoption of the double-shift system of the first type. The second type may be given a fair trial in areas where conditions suitable for this experiment are found to exist.

(g) A minimum programme of qualitative improvement including revision of curricula, the introduction of work experience and national or social service, production of good textbooks, inservice education of teachers and strengthening of science education should be included in all Plans.

11. Secondary Education The Board approves of the proposals made by the Planning Group in this regard subject to the following observations

(a) Science education with special emphasis on the development of scientific attitudes and skills should be given high priority.

(b) The enrolment of 33 lakh additional pupils is reasonable.

(c) The minimum programme of qualitative improvement envisaged in the Report in regard to curricula and textbooks on priority basis

(d) In view of the fact that some States have decided to change over to the pattern of secondary education suggested by the Education Commission, the funds necessary for the purpose should be provided.

12 Higher Education The Board broadly approves of the proposals of the Planning Group subject to the following modifications

(a) It will be necessary to provide for the inevitable additional enrolment of students who come forward to join the colleges, especially because facilities for training and employment at the end of the secondary stage are not available and because the recruitment policies by employing agencies put a premium on university degrees. It was however, emphasised that certain minimum standards must be insisted upon and full time facilities should be provided only to the extent of available resources. But part-time and correspondence courses should be provided for others who cannot find admission to whole time institutions.

(b) New universities should not be established without, adequately considering the availability of resources for the purpose and prior consultation with the University Grants Commission and the Government of India. Where sufficient postgraduate students are available, university centres could be set up in the first instance.

(c) It is necessary to create a few centres of excellence where facilities at the highest possible level will be provided so that men of sufficient competence and ability could become available for occupying key positions in different sectors of national life.

(d) There is urgent need to improve the quality of postgraduate education and research.

(e) A concerted effort is needed to rationalise the utilisation of resources and to improve organisational and administrative techniques, teaching methods, curricula, examination system, etc.

13 Technical and Vocational Education The Board emphasises the need for a much closer coordination between institutions for technical and vocational education on the one hand and agriculture and industries on the other.

contact programme). It is further of the view that training institutions should be encouraged to do extension work and that the provision necessary for this purpose should be made in the Fourth Plan.

16. Adult Education : The Board realises the importance of adult education in the context of national development and desires that adequate allocations should be made for it.

17. Youth Programmes : The Board is of the view that the programmes relating to non-student youth should receive a higher priority in the Fourth Plan.

III Recommendations Of The National Integration Council

18 Orientation to National Integration : The Board endorses the recommendation of the National Integration Council that education from primary to the postgraduate stage should be oriented.

(a) To serve the purpose of creating a sense of Indianess, unity and solidarity,

(b) to inculcate faith in the basic postulates of Indian democracy, and

(c) to help the nation to create a modern society.

The Board recommends that State Governments and universities should take steps to give this new orientation to education through revision of curricular or extra-curricular programmes, modification in the methods of teaching and evaluation, revision of textbooks and instructional materials and appropriate orientation of teachers.

19. Textbooks : The Board requests the State Governments to appoint expert committees to organise the preparation of textbooks for schools. It also requests them to keep in view the recommendations of the National Committee on Preparation of Textbooks.

20. The Board welcomes the proposal to establish a National Board of School Textbooks. Its objectives should be as follows:

(a) to advise the Government of India and State Governments on all matters relating to the production and prescription of school textbooks,

(b) to scrutinise textbooks produced at the State and the national levels and to ensure that they are in conformity with the objectives of national integration.

(c) to ensure that continuation efforts are made at the national and State levels to improve the standard of textbooks in subject-matter, content, in presentation of material in production, and to this end, to evolve appropriate criteria for the production of textbooks, especially for those in history, languages and social studies, and

(d) to ensure that textbooks are priced as low as possible consistently with the maintenance of essential standards and that all necessary steps are taken to give every pupil a reasonable access to all textbooks.

The National Board of School Textbooks should have also adequate representation of teachers and academic persons.

21. Regional Imbalances : Strenuous efforts should be made to correct the regional imbalances in the country. For this purpose, it would be desirable to adopt the district as the basic unit for educational administration, development and planning. At the State level, deliberate and sustained efforts should be made to assist the less advanced areas to come up to certain minimum levels by giving liberal grants-in-aid to the backward areas. At the national level, it is the responsibility of the Government of India to equalise educational development in the different States and, to that end, to provide special financial assistance, under Centrally sponsored schemes, to the backward States. Efforts should also be made to provide good educational facilities in rural and other backward areas.

22. The Common School System : Efforts should be made to improve standards in general school in such a manner that the gap between the good and the poor school is bridged. The State Governments should take early steps, by granting scholarships and through other suitable measures, to ensure the admissions of deserving students from poor homes to good schools.

ALL INDIA NATIONAL EDUCATION CONFERENCE

Seragam, 14, 15, 16. October, 1972

STATEMENT ON 'CONSENSUS'

Universities, distinguished educationists and a large number of Basic education workers from different parts of the country attended the Conference.

The Conference considered the working paper entitled 'Linking Education with Growth and Social Justice', prepared by the Chairman of the Conference. After detailed discussion, the following consensus emerged:

1 Education at all levels should be imparted through socially useful and productive activities linked with economic growth and development, in both rural and urban areas.

Expansion should be planned, but not at the cost of quality.

2 The Courses of Study from the Primary to the University levels should emphasise three fundamental values

(i) Self reliance, self confidence, and dignity of labour through the use of work as an integral part of the educational programme;

(ii) A spirit of nationalism and social responsibility through the involvement of students and teachers in meaningful programmes of community service; and

(iii) Inculcation of ethical and moral values and a proper understanding of the essential unity of and equal respect for all religions.

These Courses should include general knowledge of our composite cultural heritage, a brief history of the Indian freedom movement, emphasizing national unity, international cooperation, and the fundamental values of non-violence, democracy, social justice and secularism as enshrined in our Constitution.

A study of Gandhian Thought also should be introduced in the curricula of different subjects like economics, politics, education, sociology, and philosophy, at the Secondary and university stages.

While controversy over words may be avoided, the term 'Basic education' should be preferred at primary and secondary levels.

3 The educational structure for various stages should be 10+2+3. After ten years of secondary education, there must be a large number of two-years' diversified courses enabling the students to secure employment opportunities and settle down in life. Various Government departments could introduce their own diploma courses in accordance with their requirements. After the higher secondary stage, the first Degree course in the University should be of three years' duration, followed by Post-Graduate and Research courses.

" While the two-year Diploma courses have to be of a terminal nature, it should be open to students to pursue higher studies at any time in future. "

Vacations should be pruned and adjusted for imparting intensive education according to local needs.

4. Primary and Secondary schools should be open to all children irrespective of caste, creed, community, religion, economic condition or social status. The 'neighbourhood school' concept suggested by the Education Commission should be given a fair trial. From the standpoint of social justice, plenty of merit-cum-means scholarships ought to be made available at different stages of education so that no student is deprived of the highest available education in the country simply because his or her parents happen to be poor.

5. While a common school system is desirable from the angle of social justice and national cohesion, the State Governments should give positive encouragement to educational institutions for conducting new experiments in teaching methods, examination system, arrangement of subjects in the curriculum, preparation of text-books and the training of teachers. Emphasis on uniformity must not hamper innovations and research in the educational sphere. There should be no undue interference by the State in educational matters. The concept of 'Autonomous Colleges' recommended by the Education Commission may now be implemented in a positive manner.

6. Though serious efforts should be made to root out several malpractices in private institutions, the administration should not succumb to pressures for taking over the entire responsibility of running secondary schools and colleges.

7. The medium of instruction at the primary and secondary stages is already the mother-tongue or the regional language in all the States. Urgent steps may now be taken to adopt regional languages as media of education at the University level as well.

The use of Nagri as an alternative script for Indian Languages should be encouraged.

8. With a view to hastening this educational reform, it is necessary that all-India competitive examinations, for Civil and Military services, should be conducted through the regional languages and candidates selected on the strength of a quota allotted to each State on a rational basis. To preserve the all-India character of these Services, the candi-

dates after selection should be imparted a good knowledge of Hindi and English languages, as also a broad acquaintance with national history, culture, Indian Constitution and economic planning.

9. The existing system of examination exercises a crippling effect on the physical, mental and moral capacities of the students. It is, therefore, essential to reform it in a radical manner, without any further delay. In addition to the external examination, there should be adequate stress on continuous internal assessment by each subject-department so that undue emphasis on the final examination as the sole determinant of success is reduced. Practical work and viva voce test shave to be encouraged.

In short, the examination system should not only assess the intellectual attainment of students but also take into account their active participation in productive and development activities, co-curricular programmes, social service, regularity in attendance and general behavior.

10. In both public as well as private recruitment, every effort should be made to de-link employment with Degrees. Existing recruitment rules may be suitably amended. This would discourage undue rush for admissions to Universities, eliminate corrupt practices in examinations and encourage progressive educational development on a sound basis.

11. No educational reform could be sustained without definite improvement in the quality and training of teachers. While the teaching profession must fulfil its obligations in imparting good education to the students, it is the duty of the State and the people to raise their social status and dignity and make them free from financial worries.

Teachers should not get involved in party politics; they should formulate a proper code of conduct in this respect. The 'Acharya Kul' project initiated by Vinobaji could be utilised in this connection by the teaching profession.

12. It is essential that parents at all levels ought to be actively involved in the crucial task of educational reconstruction. To this end, parent-teacher associations should become a regular feature in schools and colleges. In fact, each home should be developed as a basic educational unit in the real sense of the term,

13. Students should be actively associated in the policy-making processes of educational reform. Students' unions could be utilised for enforcing self-discipline, and creating a sense of greater responsibility.

The youth should be made to understand that the present methods of violence would inevitably lead to counter-violence and imperil the very foundations of our democratic structure.

14. It is a matter of real concern that 70 per cent of our population is still illiterate, despite various schemes in this direction during the last 25 years. Concerted efforts should, therefore, be made to impart 'functional' literacy to the masses so as to promote greater efficiency in their skills, besides the creation of better civic consciousness among the people. Students and teachers should be drawn into this national campaign as a part of their community service activities.

15. It is desirable that games and sports are developed in a big way in schools and colleges and promising talent is properly selected and encouraged.

16. The Conference fervently hopes that the Union and State Governments, educationists and the people in general would accord a very high priority to education on the national agenda and implement these recommendations with a sense of urgency and determination, during the Silver Jubilee year of our Independence.

The President of the Conference is authorised to appoint a 'follow-up' Committee of fifteen members, with powers to co-opt, for furthering the process of educational reform as envisaged in this statement.

CABE STANDING COMMITTEE PROCEEDING June 13, 1973.
MINISTRY OF EDUCATION & SOCIAL WELFARE GOVERNMENT
OF INDIA 1973.

INAUGURAL ADDRESS

Professor S. Nurul Hasan, Union Minister of Education, Culture and Social Welfare

I deem it a privilege and pleasure to welcome you all to this first meeting of the Standing Committee of the Central Advisory Board of Education. I also welcome my colleagues, the State Education

Ministers, who have come as special invitees to this meeting. The main agenda before us is to consider major questions of policy regarding educational and cultural development in the Fifth Plan.

The existing system of education is almost exclusively formal and relies mainly on full-time institutional instruction at all stages. This leads to several major weaknesses. It can be availed of only by the non-working population, whether children, youth or adults, and the needs of the working population are almost totally neglected. It divides life into two water-tight compartments—one being of full-time education and no work and the other of full-time work and no education, instead of expecting an individual to participate in work and educate himself throughout his life. Education cannot be properly integrated with the life of the community and become truly meaningful so long as this dichotomy continues. Above all, the cost of such a system, both recurring and non-recurring, is high and beyond the resources of a developing nation like ours. It is also doubtful whether the investment in formal education, particularly formal higher education, would offer adequate returns in terms of social benefits, if made beyond a certain limit. We have, therefore, to take immediate steps to create an integrated form of a national educational system in which all three channels of instruction—full-time institutional, part-time institutional and non-institutional self-study—are properly developed at all stages and for all sections of society.

At the primary stage, it is necessary to adopt the system of multiple-entry at the ages of 6, 11 or even 14 and to provide a large programme of part time education to meet the needs of the children who cannot attend school on a full-time basis because they have to work for or in their families. These children constitute about two-thirds of the school drop-outs so that this programme can also be the largest single measure to reduce wastage. Incidentally, the programme of part-time and informal education can, and should, involve, with profit, parents of children. At the secondary stage, it is proposed to introduce programmes of part-time and correspondence education on a much larger scale than in the past and to throw open all Board examinations to private candidates. At the university, it is proposed to establish an open university at the national level, to create opportunities for correspondence education in at least one university in every State, and to throw open university examinations to private candidates.

It has been estimated that about 200 crores or 10 per cent of the total Plan outlay would have to be invested in all programmes of

informal education in the Fifth Plan. This investment would yield rich dividends and should be given high priority.

As the whole concept is new, the public will have to be convinced to accept informal education as desirable and equal in status to full-time institutional instruction. The teachers and the inspecting officers will need proper orientation. It will also be necessary to prepare new teaching and reading materials and to make major changes in institutional structures to enable them to operate simultaneously both the formal and informal systems of education.

Yet another important issue of policy relates to the improvement of quality. For this purpose, we will have to provide the academic inputs, such as, revision of curricula, adoption of new methods of teaching, examination reform, improvement of text-books, teacher education (both pre-service and in-service), encouragement to experimentation and innovation, use of model educational technology (including mass media), improved supervision, and development of close ties between the school and the community. Equally important is the need to relate curricula to environment and to adjust vacations to local harvesting seasons. The prime Minister is of the view that work-experience and relating education to physical and social environment is a very important reform that should be put across almost immediately. These programmes do not require large investment.

What these programmes need is, not large financial investment, but detailed planning of high quality, creation of the essential institutional structures, provision of good leadership and considerable human effort through better motivation of teachers and students. It is these aspects on which we will have to concentrate our attention. I would like the whole of this year to be used for the necessary detailed preparation for these academic inputs.

The informal education for all that it would be found less expensive, is not a poor substitute; in several contexts it may even be the better alternative but making use of both the options in a balanced manner, the elementary education plan, as the plan of national minimum need, has to be equal to clearing the backlog which our undeserved neglect of this crucial sector so far has allowed to accumulate.

Without programmes of qualitative improvement in the primary and secondary sectors, we can neither ensure equality of opportunity for the weaker sections of the community, nor make education an instrument of social

programme, based on the Constitutional directive, has an absolutely overriding priority and I would request all the State Education Ministers to see that it is appropriately highlighted in their plans.

The second programme in this area is that of adult education, especially the informal education of young persons in the age-group of 15-25 in close association with the Nehru Yuval Kendras.

The first is that of scholarships whose allocation has been raised from Rs. 15 crores in the Fourth Plan to Rs. 90 crores in the Fifth Plan. It is proposed to double the number of scholarships which the Centre now provides at the university stage—from 30,000 awards a year to 60,000. The Scheme of scholarships to talented children in rural areas will be continued and a new scheme will be introduced under which 25 per cent of the seats in approved residential schools will be reserved for merit scholars selected by Governments. I would request the State Governments also to provide as large an allocation as possible for the provision of scholarships. One important suggestion is that they should provide two matching scholarships per Community Development Block for the two scholarships which have been provided by the Government of India.

The second programme is that of promoting the education of scheduled Castes and Scheduled Tribes.

The third programme refers to the educational development of hill areas. They have many special problems such as scattered population, difficulty of communications and comparative isolation and appropriate measures will have to be adopted to overcome these difficulties.

The fourth programme that I would refer to, in this context, is that of the model primary and secondary schools. Since several misunderstandings arose because of their name, we now propose to designate these institutions as 'Community Schools' in order to emphasise their close relationship to the development of their communities, and especially of the weaker sections therein.

There are several important features of these institutions. They will be the pace-setting institutions in a programme of qualitative improvement. They will serve as demonstration schools. They will also function as extension centres and help the schools in their neighbourhood through provision of services to students and teachers and sharing of common facilities. Above all, they will be powerful instruments of equalising educational opportunities because 25 per cent of their

students will be selected exclusively from the weaker sections of the community and will be given adequate scholarships to cover all their maintenance cost.

There are a number of other important programmes included in the Fifth Plan proposals. In Technical Education, for instance it is proposed to emphasise consolidation and qualitative improvement. I wish we had more resources to give to Technical Education. But the situation being what it is I hope the industry (public as well as private sector) which derives the largest benefit from programmes of technical education would come forward to supplement our allocation with grants from its own resources.

I would plead with the Committee for a higher priority to cultural programmes in the Fifth Plan.

It is also proposed to emphasize the cultural content of education and to promote the development of cultural institutions.

All these measures and more are necessary, for though there is so much awareness of our cultural heritage not enough has been done for its preservation and dissemination. For example the performing arts handed from generation to generation are languishing now and in many instances are kept barely alive by the stray efforts of small dedicated groups. We cannot allow such age old art forms to wither and die. The State must come to their rescue and offer substantial support.

Culture permeates every aspect of our life including the whole educational process. For this reason as I said a little earlier it is necessary to develop a National Policy of Culture. In a vast country as ours with a long and eventful history a multiplicity of forms and plurality of approach this will not be an easy matter and will require careful handling. Regional identities will have to be preserved within the overall fabric of national unity. Dialogues have to be established between regional cultures and different levels of society between cities and villages so as to arrive at a greater understanding amongst the people of our land.

We cannot postpone any longer the intensive efforts needed to transform the existing educational system. This calls for bold and imaginative decisions and improvement in the quality of planning and vigour of implementation. It also implies a large investment in terms of leadership and human effort by motivating the teachers and the students. The challenge is difficult no doubt but not insurmountable.

CONCLUDING ADDRESS

Professor S. Chakravarty

"One of the major policies adopted in the Fifth Plan is to bring about a deliberate change in the inter-sectoral investment in favour of elementary education. From the discussion I have heard today, it appears that there is not a single dissenting opinion on the subject.

The non-attending children are mostly girls and children from the poorer sections of society including the Scheduled Castes and the Scheduled Tribes.

Another issue which was highlighted in the discussions today is that of vocationalisation of higher secondary education. This is an extremely important point, specially if we have to solve the problem of educated unemployment and admissions to universities.

The implementation of this programme cannot be done in isolation by educationists. It will have to be interlinked with industry, agriculture and so on. It is also necessary to have estimates of manpower needs and employment opportunities at the middle level. I suggest that an Inter-Ministerial group should go into this question. A few detailed studies are being undertaken by the Institute of Applied Man-power Research and these may also yield some useful results.

In my opinion, one of the basic tasks of planning is to equalise economic opportunities. The programme of equalisation of educational opportunities can be developed side by side with this basic programme as they strengthen each other.

There is no doubt in my mind, however, that this is the hard core of the problem and the single most important challenge in the context of the Fifth Plan."

RECOMMENDATIONS

The utmost economy should be observed in all Plan schemes and economy devices like the adoption of the shift system, the programme of apprentice teachers, emphasis on informal education, reduction in the cost of school buildings, etc., should be fully explored and utilised.

The task to be attempted for elementary education in the age-group 6-14 is vast and costly. Keeping in view the Constitutional

directive and the decision of the NDC to provide 100 per cent enrolment in the age-group 6-11 and 75 per cent enrolment in the age-group 11-14, the Conference is of the view that all efforts will have to be made to reach the goals and every care exercised with the resources available.

In order to get best results, however, the Committee would like to emphasise four main points in this programme :

(a) the programme of informal and part-time education should receive considerable emphasis, through providing a certain percentage of the education budget at each level for this programme;

(b) the maximum use possible should be made of schemes of apprenticeship teachers and part-time teachers;

(c) the expenditure on incentives should not ordinarily be more than 15 per cent and that on buildings more than 10 per cent of the total allocation. About 20 per cent of the allocation at least should be earmarked for programme of qualitative improvement including administration and training; and

(d) special regard should be paid to the particular needs of hill and forest areas.

It is therefore, recommended that steps should be taken to control the indiscriminate expansion of secondary schools which tend to be small, uneconomic and inefficient. It further recommends that the allocation to secondary education should be increased.

The committee examined the administrative and financial implications of the decision to adopt the uniform pattern of 10+2+3. It was of the view that it might not be possible for the State Governments to find the resources required for this programme fully in the State Sector. It, therefore, recommends that a Central Scheme providing liberal assistance for the adoption of the new pattern should be introduced in the Fifth Five-Year Plan. This is all the more necessary as the programme has to be implemented by all the States simultaneously and in a co-ordinated manner.

The Committee attaches the highest significance to the programme of vocationalisation of secondary education. In the opinion of the Committee, this programme is next in importance only to the universalisation of elementary education.

The Committee is of the view that one of the major problems of the system of higher education is its unplanned and indiscriminate

growth and that it is essential to regulate the enrolments in higher education to conform increasingly to the likely quantum and pattern of employment opportunities for educated youth. It is of the view that the system of higher education should be selective. At the same time, it recommends that steps will have to be taken to increase the access of the weaker sections of the community and backward areas to higher education.

The Committee stressed the need to review and evolve a comprehensive national policy for the development of higher education. It, therefore, recommends that the Government of India should formulate in consultation with States and the University Grants Commission, a national policy for the development of higher education.

The Committee welcomes the proposal to create a new and an integrated form of a national education system in which all the three channels of instruction—full-time institutional, part-time institutional and non-institutional self-study would be properly developed at all stages and for all sections of the society. It also welcomes the proposal to establish an Open University at the national level under an Act of Parliament, to introduce correspondence courses in at least one university in every State, and in all Boards of Secondary Education, and to throw open all Board and University examinations to private candidates.

The Committee welcomes the proposals for the consideration and qualitative improvement of technical education and suggests that the industry which receives the largest benefit from the programmes of technical education should contribute towards its support and development.

The committee reviewed the working of the Rural Talent Scholarships Scheme and recommended as follows :

(a) As the objective of the scheme is to identify and nurture rural talent, the condition of admission to the selected schools should be retained. It would, however, be necessary to develop a sufficient number of good schools in each district.

(b) The scholarship amount for scholars residing in their own home and attending a school of their own choice may be so fixed as to cover the tuition fees and books; in the case of scholars who attend a school selected by the State Government, but staying with a relation or a friend due to non-availability of hostel facilities, will be paid Rs. 500 per annum.

(c) The States which have not so far implemented this scheme should do so immediately from the next academic session

(d) When the scheme was introduced the intention was that the Central and State Governments would each award two scholarships per block. Most of the State Govts have not instituted the awards during the Fourth Plan. The Committee appeals to all the State Governments to institute two awards per block during the Fifth Plan.

PAPER CONSIDERED

EDUCATION IN THE FIFTH PLAN A REPORT TO THE STANDING COMMITTEE OF THE CABE

Adoption of the 10 + 2 + 3 Pattern

A major programme of reform at the secondary stage proposed for inclusion in the Fifth Five Year Plan is to adopt the pattern of 10 + 2 + 3 in all parts of the country before the end of the Plan period. This is significant from two points of view. Firstly it will help vocationalize the higher secondary stage and divert students in different walks of life. Secondly it will also help materially in reducing pressures on higher education. However the discussions on the problems held so far have thrown up certain problems which need careful discussion!

The first point to be noted is that there is now a general consensus on certain modifications in the proposed pattern. These may be summed up as follows:

(1) The school stage should necessarily cover a period of 12 years and should preferably be divided into 10 + 2

(2) At the undergraduate stage we may have a pass course of two years and an honours course of three years. This will have several advantages. In the first place it will not mean an addition of one year for every student in those States where the first degree is now obtained in a period of 15 years. This will make it possible for a large number of students to get their first degree after 14 years and this will save considerable cost as well as time. Moreover the introduction of the special honours courses for three years will make it possible to isolate the more competent and better motivated students from the others and help in raising standards especially at the post graduate stage. Incidentally this will make our Honours degree more comparable with the Honours degree of universities in the advanced countries.

(3) It should be open to all students who have taken the first degree in the pass course to study privately or through correspondence courses and to appear for the first degree in honours course at any time.

(4) Post-graduate course should cover a period of two years after the honours degree.

(5) The research degree should take three or more years after the Master's degree. It may also be desirable to institute a degree like M. Phil., M. Litt. after M.A., M.Sc.

One great fear expressed has been that, in implementing the pattern, whose objective is mainly to lengthen the duration of secondary education and to transfer one year from the university to the school stage, the exact opposite may probably happen and a year may get transferred from the school stage to the university. This is a genuine fear and must be guarded against. There is no objection to the two year stage after class X being located in institutions called junior colleges.

There is a pressure from several quarters to make these two years a part of the university and to make all conditions at this stage, including qualifications of teachers, remuneration, etc. comparable to those in the universities or degree colleges. It would be disastrous to do so because the cost of the programme will increase tremendously without any adequate advantage.

The need of adequate preparation has also been emphasised. There is no point in making every high school a higher secondary school. The high schools to be upgraded to the higher secondary stage will have to be carefully selected and, as the Education Commission pointed out, the need of the situation could be met if only one out of four of five secondary schools is upgraded. Curricula for classes XI and XII will have to be properly designed and teachers trained. Buildings and facilities will have to be provided sufficiently in advance. All this implies that careful preparation of one to three years is needed to adopt the new pattern. It is suggested that this preparation should be immediately initiated so that the programme can be completed by the end of the Fifth Plan as originally visualised.

The need to diversify the higher secondary stage which is one of the major objectives of adopting the new pattern must be highlighted. This objective will not be fulfilled if all the higher secondary schools merely become university-preparatory. While realising that the process

of vocationalization would be slow in the initial stages it is suggested that it should receive emphasis and that we should strive to divert into vocational courses about 20-30 per cent students at the higher secondary. The target of 50 per cent suggested by the Education Commission may be reached by the Sixth Five Year Plan.

Qualitative Improvement

The problems of qualitative improvement at the secondary stage are even more important than at the elementary stage. These will also have to be treated as a package deal and will have to include the introduction of work-experience, improvement of curricula, adoption of new methods of teaching, examination reform, teacher education, improvement of supervision and provision of buildings and equipment. The utmost emphasis would have to be laid on the training of teachers. Experience has shown that the subject knowledge of a large proportion of secondary teachers is very weak because they are often required to teach subjects which they never studied at the degree stage.

Informal Education

It is also proposed to develop programmes of informal education at the secondary stage. Private study would be given full encouragement and all examinations conducted by the Boards of Secondary Education will be thrown open to private candidates. In addition, correspondence courses would be instituted in all Boards of Secondary Education.

CULTURE IN THE FIFTH PLAN

At the meeting held on September 18-19, 1972 the Central Advisory Board of Education had considered a paper on the development of culture in the Fifth Five Year Plan.

It was agreed by all present that the development of culture is a matter of the highest importance and it is necessary to make all efforts to sustain the distinctive features of the Indian cultural patterns. Later in the course of a reply to the debate in the Lok Sabha Education Minister has spoken of this pattern which has grown out of many streams and a pattern of cultural synthesis which is almost unique which has a tradition of tolerance and large-heartedness which is so characteristic of the Indian people which at times gives the impression of syncretism and eclecticism but which nevertheless has a highly dialectical logic to weld it into a basic unity while retaining its diversity which we all wish to preserve because it lends so much colour to it.

(3) It should be open to all students who have taken the first degree in the pass course to study privately or through correspondence courses and to appear for the first degree in honours course at any time.

(4) Post-graduate course should cover a period of two years after the honours degree.

(5) The research degree should take three or more years after the Master's degree. It may also be desirable to institute a degree like M. Phil; M. Litt. after M. A., M.Sc.

One great fear expressed has been that, in implementing the pattern, whose objective is mainly to lengthen the duration of secondary education and to transfer one year from the university to the school stage, the exact opposite may probably happen and a year may get transferred from the school stage to the university. This is a genuine fear and must be guarded against. There is no objection to the two year stage after class X being located in institutions called junior colleges.

There is a pressure from several quarters to make these two years a part of the university and to make all conditions at this stage, including qualifications of teachers, remuneration, etc. comparable to those in the universities or degree colleges. It would be disastrous to do so because the cost of the programme will increase tremendously without any adequate advantage.

The need of adequate preparation has also been emphasised. There is no point in making every high school a higher secondary school. The high schools to be upgraded to the higher secondary stage will have to be carefully selected and, as the Education Commission pointed out, the need of the situation could be met if only one out of four of five secondary schools is upgraded. Curricula for classes XI and XII will have to be properly designed and teachers trained. Buildings and facilities will have to be provided sufficiently in advance. All this implies that careful preparation of one to three years is needed to adopt the new pattern. It is suggested that this preparation should be immediately initiated so that the programme can be completed by the end of the Fifth Plan as originally visualised.

The need to diversify the higher secondary stage which is one of the major objectives of adopting the new pattern must be highlighted. This objective will not be fulfilled if all the higher secondary schools merely become university-preparatory. While realising that the process

of vocationalization would be slow in the initial stages it is suggested that it should receive emphasis and that we should strive to divert into vocational courses about 20 -30 per cent students at the higher secondary. The target of 50 per cent suggested by the Education Commission may be reached by the Sixth Five Year Plan.

Qualitative Improvement

The problems of qualitative improvement at the secondary stage are even more important than at the elementary stage. These will also have to be treated as a package deal and will have to include the introduction of work-experience, improvement of curricula, adoption of new methods of teaching, examination reform, teacher education, improvement of supervision and provision of buildings and equipment. The utmost emphasis would have to be laid on the training of teachers. Experience has shown that the subject knowledge of a large proportion of secondary teachers is very weak because they are often required to teach subjects which they never studied at the degree stage.

Informal Education

It is also proposed to develop programmes of informal education at the secondary stage. Private study would be given full encouragement and all examinations conducted by the Boards of Secondary Education will be thrown open to private candidates. In addition correspondence courses would be instituted in all Boards of Secondary Education.

CULTURE IN THE FIFTH PLAN

At the meeting held on September 18 19 1972 the Central Advisory Board of Education had considered a paper on the development of culture in the Fifth Five Year Plan.

It was agreed by all present that the development of culture is a matter of the highest importance and it is necessary to make all efforts to sustain the distinctive features of the Indian cultural patterns. Later in the course of a reply to the debate in the Lok Sabha, Education Minister has spoken of this pattern which has grown out of many streams and a 'pattern of cultural synthesis which is almost unique which has a tradition of tolerance and large heartedness which is so characteristic of the Indian people, which at times gives the impression of syncretism and eclecticism but which nevertheless has a highly dialectical logic to weld it into a basic unity while retaining its diversity which we all wish to preserve because it lends so much colour to it.'

In the course of the same intervention in the Lok Sabha, Education Minister had said that this culture "has to be preserved, this has to be developed. We cannot afford an attitude towards culture which is only past-oriented. We must see that our culture rooted in the past blossoms out to solve the needs of the masses of our people for the future. We cannot afford the luxury of having two cultures—one science culture and the other a culture of non-science. These two have to be welded in accordance with the particular genius of the Indian people, with the new technique which has been evolved by the Indian people to absorb new ideas and to keep the windows open as Gandhiji said, but not to be swept away by the winds which come through these windows. Therefore, a cultural policy has to be evolved. It cannot be dictated to by a group of us."

In the field of education, also, although the Education Commission had drawn special attention to the need for a greater emphasis on the cultural content of education, no separate schemes were evolved within the framework of the educational plan.

In the Fifth Five Year Plan, for the first time, the Planning Commission appointed a Task Force on Culture to take an over-all view of the programmes which were being evolved in different sectors, particularly those in the fields of information and broadcasting, mass media, tourism, social welfare. In pursuance of the decisions of the Central Advisory Board of Education's meeting, the Department of Culture also set up its working groups for surveying and evolving plans in the field of culture and education, library development, gazetteers, archives, museums and art galleries, archaeology and the development of the creative arts. As a result of the work of the Working Groups and of the Task Force appointed by the Planning Commission, an overall programme of cultural activities can be evolved. The thinking of all concerned has been that the cultural dimension of all activities should be recognised.

The course of action suggested may be conceived on two levels

(1) The evolution of a co-ordination machinery at the Central level which would be able to take a comprehensive and overall view of cultural action or the cultural component of all development programmes, specially in the fields of information, broadcasting, mass media, tourism, social welfare, agriculture and the welfare of industrial workers.

(2) The evolution of a machinery of coordination and of setting down guidelines for the cultural content of education at different levels.

For both these levels of action there would have to be a close liaison between the Centre and the States and between the Department of Culture and other administrative units both in the field of education and outside the field of education.

In the field of education it has been recommended that certain correctives are necessary. These correctives can be brought about by the introduction of a larger cultural content specially at the primary school and secondary school levels. Also in keeping with the overall objectives mentioned above programmes which would inculcate a spirit of inquiry, a scientific attitude to life should be introduced in the whole fabric of education.

The cultural components of schemes relating to the diversification of education of the programme of qualitative improvement of vocationalisation, etc will all have to take cognisance of the cultural component. This will be of vital importance in the implementation of schemes relating to informal education. In the field of higher education it is hoped that there will be establishment of many more departments of research in the diverse fields of culture in the university system.

The Arts

The art academies specially the three National Academies of literature, the performing and the plastic arts have done valuable work. However in a country as large as India and with the multiplicity of content and forms the national effort must be reinforced with efforts at regional, State and local levels. It has been recognised that academies should be established in the States wherever they do not exist and strengthened wherever they now exist.

New schemes are to be undertaken in the fields of the creative arts which will ensure financial stability and security for the creative artists. A special scheme of giving scholarships to young children with talent in the fields of arts has been instituted. The scheme for giving scholarship to talented age group 18-27, is being further strengthened. A pension scheme for artists is also being introduced.

No effort to strengthen and foster professional talent would be complete unless this is supplemented with an effort to inculcate an awareness of our cultural heritage in children, students and the masses of our people both in urban and rural areas. With this end in view, Government has decided to undertake a number of programmes. The

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Nehru Yuval Kendras, for example, will enable large sections of our non-student youth to participate in various creative activities.

The expansion of our cultural relations with other countries of the world is of utmost importance.

RECOMMENDATIONS OF THE CENTRAL ADVISORY BOARD OF EDUCATION COMMITTEE ON INFORMAL EDUCATION

The meeting of the Central Advisory Board of Education Committee on Informal Education was held on 24th May, 1973 at Himachal Bhawan, Simla.

The Committee made the following recommendations :

(1) In the Fifth Plan, due priority should be given to the development of education in hill areas as these have remained backward.

(2) A deliberate and intensive effort should be made to break the isolation of hill areas by providing for exchanges of personnel (teachers and students), establishing suitable linkages between educational institutions in Hill areas and others. This will help to, promote national integration.

(3) The problem of making primary education universal in these areas should be tackled through the adoption of special measures including establishment of Ashram schools, mobile schools and use of modern educational technology.

(4) Programmes of informal education are more relevant to these areas and services of retired teachers and other educated persons of these areas should be utilised.

(5) Provision for secondary education should be related to local environment and development needs.

(6) Suitable provision of facilities should be provided for physical education and sports.

(7) Special attention should be given for provision of facilities for higher education in these areas as they remained backward for various reasons.

(8) As part of Educational survey being taken up by the Central Government, a Special Officer should be appointed in the Centre. He will work in collaboration with State level Survey officers and develop concrete programmes on educational development for Hill areas.

(9) Overall development of these areas should be planned in consonance with the need to maintain the cultural identity of these areas and the communities therein.

Educational India At Present

EDUCATIONAL INDIA AT PRESENT

In the preceding chapters attempt has been made to give a bird's eye view of the evolution of educational thinking in pre independent and post independent India through various Commissions committees meetings and conferences of experts and administrators including socio political workers. The International thinking on education as revealed in the report of the International Commission on the Development of Education has presented in a nut shell the ideal of life long learning World full of various globle challenges & should provide the background of hard realities upon which India should build up her educational reconstruction so as to enable the citizen of the ensuing century to react effectively to such growing challenges to adopt to ever changing socio economic environment which is determined by multifarious factors including explosive advance in science and technology and to grow into ever readiness to digest all shocks which are in the womb of the future.

The later half of the twentieth century has seen what was not imagined by man during the entire process of human evolution. The ideal of the world as one human family Vasudhaiv Kutumbakum has become an obvious reality on account of man's increasing control over time and space although the members of the family stand divided among themselves suspicious of one another. However, for the first time during the last forty five years this family has breathed relief from what is described as war on any corner of the mother Earth. Despite suspicious competition between the two advanced blocks for gaining ever more strength by way of neocolonialism and expansion of dominating influence over developing nations and despite breaking struts among a few developing countries on issues the year 1975 has witnessed conspicuous absence of war with its end in Vietnam.

The Indian sub continent emerged as the Fourth world on the international stage during the year 1974-75. India can now claim her rightful membership to the Space club as well as the Club of Atomic Powers with the growth of Indian technology not imagined by the power blocks to have been achieved so early by her. On this background India is to day considered the Fourth World and distinct from the developing world of nations although she shares with them all

the pangs and hurdles of development in the form of socio-economic and demographic problems with slow rate of growth in GNP. Education is expanding along with the increasing number of illiterates, who pose a great obstacle to the growth of healthy democracy, applied as a way of life rather than a mere political form. Indian agriculture still remains gambling in rain, floods or famines being continuous feature in one or another part of the country. Big irrigation projects completed in the last twenty nine years of freedom have not yet made the country capable of feeding all Indian mouths from the products of her own soil. Precious foreign exchange hard-earned by exports has to be necessarily spent for importing food grains. This retards the industrial growth of India. Unavoidable need for heavy budget for defence in view of constant border fears blocks the development of basic social welfare activities visualized in every five-year plan. Green revolution is still an ideal to be achieved by India. Industrial revolution and modernization of the existing industries are still in slow progress. Social revolution, rather evolution from static society into a dynamic society, still remains to be achieved. Provincialism still stands in the way of healthy growth of the national sentiment. India shares all these with the countries of the Third World.

However, thanks to the missionary work and prophetic leadership of Mahatma Gandhi during the thirty years preceding the realisation of the goal of political freedom, a strong invisible current of national consciousness runs below the surface of this multi-linguistic and multi-racial country and manifests itself at all events of national calamity. This sense of Indianness, which is the very essence of Indian civilization and culture, fostered by ever-touring sages and religious founders and reformers through centuries of Indian history, generates hopes for the attainment of Indian solidarity and prosperity in the years to come. Traditionally inherited tolerance and reverence for others preached by sages and founders like Kabir and Nanak and by the twentieth Century trio of Tagore, Gandhi and Shri, Aurobindo are at the very root of Indian culture—the sense of Indianness and the golden thread of unity within the pearls of diversity-linguistic, racial, religious and regional. Identification and self-actualization of this rich culture and participation in and contribution to this culture so as to keep it ever growing, ever fresh and ever inspiring are the greatest of all great national needs felt by the leaders, thinkers, social reformers and educationists to-day.

Along with big national efforts to develop Indian economy and to place the same on new technology and along with the setting up of a

self-reliance, hard work, love for labour, self-exploration and self-development with a view to becoming efficient citizens and earners as well as promoters of national economy. This dysfunctional nature of our education has still retained all the traits of pre-independence educational pattern with the result that educated youths get themselves segregated from their home and drained towards cities in search of some job by way of employment or under-employment irrespective of whether they are fit or trained for the jobs they get. This sort of swelling the process of urbanization is the worst evil India faces today. The attitude towards easy jobs, fascination for white-collared jobs and disghust for blue-collared jobs on the part of our educated youths is at the root of the youth unrest and anti-social attitudes of the youth which are further aggravated by educated unemployment, under-employment or mis-employment.

With our ideal of mass-education put into the process of materialization under constitutional directive enshrined under article 45 of our Constitution, we have not been able to uproot the structure and out-dated programmes of education based on the much criticized minute of Macaulay dated Feb. 2, 1835 in which the real narrow aim was presented as under :

"We must at present do our best to form a class who may be interpreters between us and the millions whom we govern-a class of persons Indian in blood and colour, but English in tastes, in opinions, in morals, and in intellect". The aim thus, was to create converts-the so-called elites for exploiting millions. This mal-intention is revealed in the Government resolution dated March 7, 1835 during the regime of Lord William Bentinck which stated : "The great object of the British Government ought to be the promotion of European literature and science among the natives of India; and that all the funds appropriated for the purpose of education would be best employed on English education alone." The malafide intention to create converts becomes clear from Macaulay's letter to his parents written on October 12, 1835 : "Our English schools are flourishing wonderfully; the effect of this education on the Hindus is prodigious. No Hindu who has received an English education ever remains attached to the religion. Some continue to profess it as a matter of policy, but many profess themselves pure atheists, and some embrace Christianity. It is my firm belief that if our plans of education are followed up, there will not be a single idolator among the respectable classes in Bengal thirty years hence and this will be effected without any attempts to proselytise."

ze, without the smallest interference with religious liberty, by the natural operation of knowledge and reflection, I heartily rejoice in the prospect." A horribly malignant project indeed! Thanks to the deep-rooted Indian culture renewed and refreshed from time to time by great sages, dandi kanyasis, thinkers, religious poets and devotees, bhajniks, centuries-old customs and festivals which have, with all that can be said against them, continued educating the life of every Indian from birth to death that this ill-ambitious venture of conversion could allure only a few oppressed and exploited persons, not through the English education, but through missionaries. Thanks to our writers, poets and philosophers who presented valuable books, poems and treatises throbbing in every line with our culture and philosophy evolved through centuries of our history, the boast of Macaulay, viz., "I have never found one among them (Orientalists) who could deny that a single shelf of a good European library was worth the whole native literature of India and Arabia" could not stand before the profundity of our Epics, dramas and maha-granthas on all aspects of human life. However, Macaulay's intention of producing white-collared elites took ever-sleepy roots in our soil and the process was entailed by transplanting, in the year 1857, the model of London University in Indian soil at Calcutta, Bombay and Madras. This plant grew all over India during the last 125 years to such an extent that even after one hundred years of this transplantation, we cannot imagine to uproot it. As Mahatma Gandhi wrote in "Young India" dated March 29, 1923 : "I do not know whether Macaulay's dream that English educated India would abandon its religious beliefs has been realized but we know too that he hid another dream, to supply English educated Indian clerks and the like for the English rulers. That dream has certainly been realized beyond all expectations." It is an irony of our national fate that this, white-collared education, still persists at a time when we are wedded, to the policy of free, universal and compulsory education for all children within the age-group 6+ to 14+ with the result that anarchist forces are thriving on educated unemployment or under-employment or mis-employment and on the resultant youth unrest. Even the system of basic education, visualized and professed by Mahatma Gandhi a decade before India attained independence could not compete with and reverse this deep-rooted system which has done a great harm to our social and economic growth. The three major national Education Commissions in post-independent India, consisting of members who were the products of this very system, endeavoured to build their recommendations on this

structure rather than on its reversal. Even a mild renovation within this structure invites a great uproar at a time when the original architects of this structure are attempting to revolutionize the British educational structure with a greater emphasis on polytechnical and job-oriented training rather than university education as revealed in the White Paper on British educational policy issued in 1972 for the present decade. The dysfunctional nature of university education is realized timely by such an advanced country like U.K. also. In the U.S.A., too, about 20 percent of the successful high school leavers go to the doors of universities, after 12 years' education, while the rest go to the world of work. The nation like Japan also rebuilt herself from heavy destruction during the last thirty years through properly planned education and economy, while India, rich in variety of material and human resources, which was once in pretty past the torch-bearer of civilization through Budhha monks throughout south-east Asia has yet to follow the examples set by these countries. Had we sufficient vision, eagerness and determination to reconstruct India on the essential base of educational reconstruction linking education with economic growth and social aspirations right from the day we became free or had we sincerely put into action Gandhi's system of basic education which was accepted by our national leaders as the national system of education and had we continued reforming the same in consonance with the national economic growth and man-power needs, the dysfunctional alien system of education could have been done away with or purged off all its evils at that time and the youth of the country would have been the real and responsible protector and promoter of the national solidarity at present instead of becoming a problem worrying all socio-political workers and leaders of India to-day.

During the period 1967-74 the growth of educated unemployment has attained the rate of 207.8 percent in India and 228.5 percent in Gujarat. This is revealed from the figures produced below from the live registers of employment seekers for the year ends:

Year	India	Gujarat
December, 1967	10,87,000	47,000
December, 1968	13,09,000	59,000
December, 1969	15,26,000	66,000
December, 1970	18,22,000	74,000
December, 1971	22,95,000	85,000
December, 1972	32,79,000	1,03,000
December, 1973	38,72,000	1,17,000
December, 1974	41,23,000	1,54,000

It is conspicuous from the above figures that the growth in percentage of educated unemployment is on decrease so far as all India figures are concerned, during the last two years, the same is on increase in Gujarat revealed by figures for the end of the last year compared with the figures for the end of the year, 1973.

This is the result of the dysfunctional static system of education which has essentially remained unchanged for over a century except a few patches of reforms tried more or less in vain by us. The slogan deschooling the society or "deinstitutionalising education" emanated from the alien educationist like Evan Ellich may not be applicable for countries having pragmatic approach towards educational renovation, but it is, in toto, applicable to the present traditional educational structures and programmes in India, if they cannot be completely uprooted and replaced by new educational structure and programme completely Indian not only in colour but in tastes, opinions, morals and intellect as well as in goals, of course in the international context. India cannot wait any longer with her compromising attitude, as revealed through the reports of all the three major Education Commissions appointed by the democratic Government of India, especially in seventies when important events emerge rapidly and challenge us to take our honorable place in the comity of nations. We can no longer see society and national economy starving in the draught of needed manpower, while the live registers of employment exchanges all over India are swelling by lacks every year with those products of our educational system who are of no use in any sector of the society or economy as, obviously, they are not trained for that purpose. The resultant charge of the youth unrest that we have not been able to provide various avenues of training suited both to their tastes and potentialities and to the planned growth of our national economy can no more be connived at, lest the anarchist forces should take full hold of them to the detriment of our growing democracy.

Democracy is not something pouring down from heaven but it can be compared with a tree which grows from the soil and develops as it takes deeper and stronger roots below. Conscientious and vigilant individual liberty and considered and balanced use thereof by every member of a democratic society provide the very roots of democracy. To ensure this pre-condition for the growth of democratic India, Pandit Jawaharlal Nehru launched the nationwide programme of community development and national extension blocks in 1952 on the birthday of Mahatma Gandhi who cherished the ideal of Ramrajya through the

medium of democratic form of Government. Nehru had great faith in the expected results of this programme which was in his eyes more educative than materially developmental. The needed manpower was trained in institutions of various stages at the apex of which was the national Institute of Community Development. The experience of a decade, however, revealed that the huge national programme slipped into material terms in the form of achievement of expenditure targets instead of growing more and more educative, awakening mass-consciousness towards real community needs, self-sacrifice and ultimate realisation of self-reliance on the part of every village community. The ideal of holy trinity of village panchayat, service co-operative and school as a community centre could not be realised in essence. The three-tier organisation of village, tehsil and district panchayats remained loose for want of devoted, self-less and hardworking field workers of all levels, official as well as non-official. The result was that, though millions of rupees were spent from public funds as well as voluntary contributions in cash and kind for erecting material amenities like school buildings, water works, libraries, health centres, children's parks, etc. and for organising human efforts for self development through youth clubs, mahila clubs, unilateral professional clubs etc., Gandhi's dream of Ram Rajya could not be realised as we witness to-day. The National Committee to evaluate the programme during fifties, appointed under the chairmanship of the late Shri. Balwantray Mehta, recommended a formal stamp to this national project in the form of three-tier Panchayati Raj in order to give recognition to people's rule within the national administrative structure. This recommendation was welcome in all corners of India and was put to reality in the year 1963. The results of People's rule in this formal set-up for more than a decade are not inspiring for want of service-oriented and non-official workers, proper educative processes to evolve healthy attitudes of people and field-workers for the successful implementation of this basic democratic process and public safe-guards against anti-welfare forces like groupism, casteism, power politics and disintegrating anti-social elements. The enchanting phrase 'village parliament' was rendered to mere mockery. Power lust and self aggrandizement were found rampant at higher level. The entire structure of three tier peoples' self-Government was blotted with dirty party politics based on casteism, groupism and exploitation of people through misuse of power. The co operative movement at all levels from service-cooperative to state level cooperative bodies which was propagated by Mahatma Gandhi and which was expected to build up a progressive educative process for peoples'

economic welfare and for development of peoples' virtues like spirit of unity, service faith in 'One's good in all's good,' mutual help etc, was smeared by selfish motives power lust and politics on account of lack of proper and suitable trained field workers. Such devoted service minded and well trained persons cannot be expected to be provided by the present structure and programmes of education from bottom to top. It is really most unfortunate for India that the solid foundations of the two pillars of selfless panchayati raj and cooperative services could not be laid so as to build upon them the graceful arch of national democracy, with the result that Mahatma Gandhi's concept of Ram rajya still remains an ideal enshrined in the volumes of his writings to be achieved by India. A country like China, with similar basic problems could establish and develop peoples' communes for ensuring basic conditions of course through enforcement under the communist regime, while we could not develop these basic institutions on the basis of individual liberty and self reliance and the spirit of co-operation vigilance and sacrifice for collective good and village self reliance. The dynamic balance between individual liberty which is the very essence of human life and community welfare, between individual and society which only can generate an environment for developing these basic institutions of national democracy must be achieved by India if the process of national reconstruction is to be evolved on firm foundation and if the roots of Indian democracy are to be strengthened. This poses a great challenge to the educational thinkers of India.

India is still an agrarian nation. Green Revolution is the bad need of our national economy. We can no longer stake the nation to the gambling in rain. The indigenous methods and tools of production must be improved through search and development of agrarian talents, import and adaptation of new techniques of production from advanced countries like Japan, U.S.S.R. and U.S.A., research and experimentation as well as demonstrations, exhibitions and devoted extension services and massive programmes of non formal as well as formal agricultural education. We as well, can no longer rely on indigenous traditional organic manure system which cannot yield the crop required for national as well as rural self sufficiency in food stuffs. The national efforts to develop campuses of chemical fertilizers have to be accentuated in a big way. We also can no longer see the plants on the fields eaten away by pests and plant diseases. A massive programme of production of pesticides and dissemination of knowledge about the careful use thereof is necessary. Rats in fields and godowns have proved great

enemy of man in so far as a considerable portion of our corn is eaten away by them. Rat-proof and parasite insect-proof godown techniques are badly needed in a deficient country like ours. Similarly cold storage facilities for perishable crops of fruits and vegetables should be ensured to cover all villages at a reasonable distance. India is fast becoming deficient in milk-supply. Cattle-breeding and dairy-development have become one of the urgent needs of the day. Similarly poultry development programmes must be taken up in a big way so as to be self-sufficient in food and to be in a position to ensure favourable balance of international trade which is the key to the growth of our national economy in other sectors. All these require trained manpower from skilled farmers, intermediary and supervisory extension workers, workers in the field of cooperatives at various levels and highly skilled co-ordinators, executives and research workers. This basic issue poses another vital challenge to our educational programmes, which must be reconstructed, rather revolutionalized, so as to become functional from the point of view of such basic national needs. It is high time that educational thinkers and planners take this up sincerely.

Emotional integration—the very basis of national solidarity is still a goal to be achieved by us in India. Prior to independence the freedom movement led by Mahatma Gandhi could achieve marvellous national unity with the awakening of national consciousness and building up national sentiment with one unifying goal of independence of India from British rule. Mahatma Gandhi was an unfailing visionary as well as a comprehensive planner. He could foresee the problems of future independent India in the then given social, economic, religious and regional circumstances. He, therefore, evolved his worthy constructive programme wedded to the goal of Sarvodaya with a view to remoulding the entire national structure on the firm foundations of nationally desired virtues like tolerance, non-violence, truth, fraternity, equality, untouchability, women's welfare, village uplift and self-reliance on the part of every individual and group so as to translate the real democratic values into the life-pattern of every citizen of India. National and emotional integration was sought to be achieved through this constructive programme. He wrote volumes on the reconstruction of our socio-economic life through this programme. He himself was an example of his precepts. The national congress leadership, Gandhi's disciples tried sincerely to propagate and apply to themselves this constructive Sarvodaya oriented programme with a view to preparing this multi-racial, multi-religious and multi-lingual sub-continent for imbibing the virtues of democracy even before the attainment of freedom.

Even more horrible forces of disintegration are discernible in antisocial and antinational activities like smuggling, hoarding, bribery and corruption of all kinds witnessed by us in official as well as non-official sectors. These fleas on the body of the society are the most dangerous enemies of our nation in as much as they have no national spirit but international alliances which can be exploited by international power politics and power blocks. Black-marketing which cuts at the root of the healthy growth of our economy results from these activities which, naturally, creates more and more unaccounted (black) money, which, in turn, encourages corruption to the extent of destroying basic democratic values and holiness of franchise through the process of rendering elections to sheer money politics. This vicious circle goes on unchecked to the detriment of the interests of the innocent common masses of the country. The high ideals and holiness of the constitution of India remain enshrined in the volume, and are not in a position to be assimilated, in the national life. This is the picture after 29 years of our attainment of freedom. National character, which can be built up on basic individual virtues like honesty, self-reliance, simplicity and piety of life, pride for the nation and national products, insistence on Swadeshi, sportsmanship, diligence and hard labour for increase in national production, is the bad need of the day for India.

Strikes of all kinds, non-cooperation with the essential activities of national welfare, trade-unionism revelling in getting more and more with the simultaneous process of working less, and the deliberate antisocial elements promoting such activities, Mochas and Gheraos are rampant in the public as well as private sectors of our economy. These tendencies and activities are mainly responsible for the slippages in the desired growth of national production and national income. Our public offices are heavily staffed-rather staffed unnecessarily eating away substantial portion of the state and national revenues with recurrent unionist demands for more pay and dearness allowances, which, if sanctioned, further raise the price index. This simultaneous growth in total emoluments of Government as well as non-government servants and acceleration of price-spiral resulting in unchecked growth of inflation has created another vicious circle from which we have not been able to come out for the last so many years. Only planned and proper evolution of honest, diligent and devoted manpower and well-planned employment thereof in various vital sectors of our economy can bring to us desired increased production and increased national income which are the only replies to this particular vicious circle.

Casteism inherited by the Indian society from generation to generation, sectarianism which a child assimilates in its mental make up from its own family and communalism which has not been done away with even after a great sacrifice into the partition of India and the greatest sacrifice of the life of the Father of the Nation are great stumbling blocks to our march towards national progress towards an unbiased democratic way of life. These disintegrating traditional factors have continued slurring our elections although and exploiting franchise which is the very pivot of democracy. Caste strife, sectarian unrest and communal riots are recurrent on trifles in any part of India. Mahatma Gandhi's preachings about abolition of untouchability, social equality and justice, tolerance to all religions and sarvodaya based on equality, brotherhood, human dignity, trusteeship on the part of the haves and substitution of narrow sentiments of caste, creed or religion by healthy, human, and social sentiments have appealed to the hearts of a few only, leaving the illiterate, and even literate masses untouched. This position is no less due to indifference of our political leaders in power than due to the lack of setting up enough Gandhian seats of learning Sarvodaya through community life. This situation should be considered by all thinkers, social reformers and educational thinkers as basically detrimental to national solidarity, emotional integration and ensuring stable as well as honest nationalistic democratic governments at the Centre as well as in States. It is most unfortunate that, even in seventies, the candidates for election calculate and launch election campaigns on these forces of disintegration and that our political parties select candidates on this base rather than on individual merits like his social service, honesty and character. The result is, that instead of being educative the elections prove disintegrating the masses further every time. This is really dangerous, because such anti-democratic elements which crush individual rights and consciousness as well as prop up and discriminate use of one's right to vote have created a malignant tumour in the very body politic of Indian democracy. Evolution of healthy democratic conventions on the sound base of the strong sense of Indianess to be felt as the foremost essence of individual life of every citizen irrespective of his caste, creed, sect, community, region, language or religion is the top priority process which must start without any delay.

Regional imbalances within the country and within each state of India from socio-economic and political points of view are basically important problems to be solved at the earliest. Much has been told

about weaker sections of the society including tribals, semi-nomads and women, but the efforts at National and State level made to solve these problems through the process of equalization of opportunities have not been commensurate with the magnitude of these problems. Our economic efforts have proved obviously scant. Our social efforts have been nearer nil than some-what. And these insufficient efforts, with their results are washed away in the electoral floods pushed by dirty power-politics of money and the efforts of vested interests to exploit the regional imbalances, especially in scheduled areas and traditionally exploited strata of society. Assam and Nagaland provide glaring examples of such exploitation by vested interests. Old customs, beliefs of evils or ghosts and indigenous modes of treating them by bhuvas and religious quacks who create a ghastly and inhuman atmosphere appealing to the fear from cradle to grave to such an extent that any constructive social reformer is looked at with doubt and without any faith or inclination to hear him. Their tendency to fall easy prey to material allurations has been exploited tremendously by foreign missionaries as well as by anti-democratic enemies of this great growing democracy of the world. Mizos provide a concrete example in this respect. Political ideologies penetrating through our borders from communist sources constantly poison such areas with a malafide motive to create a background for the spread of anarchy and communism in the country through class-wars, naxalite activities and the like. Landless labourers in all parts of the country and poorer sections of the society can be easily won away by such planned efforts of persons Indian in colour but communists in tastes, in opinions, in morals and in intellect. These are the imminent issues which must be successfully faced by Indian democracy through a well-planned, concentrated and comprehensive programme of the welfare of the weaker sections of the Indian society. This programme should necessarily be evolved in face of the fact that anarchist forces can thrive only on illiteracy, economic unrest, intolerable imbalances, youth unrest and educated unemployment or mis-employment. This programme must be socially and economically functional in character and shall have to be comprehensively evolved on Gandhian ideal of Sarvodaya, if India is to survive as a healthy democracy. This programme can be more effectively implemented by voluntary agencies and Gandhian missionaries than by the governmental machinery only which would work within its own frame-work and the sense of safeguarding oneself from any 'unnecessary' initiative. This programme will have to be essentially educative in nature and to be based on the

conviction that the most powerful agent of change is education itself. Divising suitable educational programmes capable of rousing miss-consciousness in constructive directions of national welfare and solidarity and capable of developing strong sentiment of Indianiness is the challenging job to be attended to by educational planners and social reformers. This involves a lot of survey, research proper data processing and interpretation and what is most important an interdepartmental voluntary action programme of education and training capable of getting rid of all the above mentioned disintegrating forces and rehabilitating first and channelizing next the miss consciousness towards national solidarity through emotional integration. Needless to say that this involves injecting the very body education with suitable vitamins and antibiotics so as to cure it off the epidemicous germs with which it inactively breathes for over a century. Unless education is shorn off its dysfunctional characteristics we cannot hope it to be an agent of change. An agent of change must remain ever growing, ever refreshing and infinitely dynamic. This is the inevitable pre condition for any progress in the desired direction and unless this is ensured radically, no government no socio economic programme or no voluntary agency will be able to prevent India from slipping into the ever darkening valley of the future.

The prosperity of any nation normally depends on its growth rate of agricultural mineral marine and industrial production its rate of population growth its balance of international trade and its geographical condition but what is more important is that national prosperity depends on the endeavours diligence initiative and zeal of its human resources. Japan is a glaring example to this fact. She produces very little raw materials yet due to untiring and inquisitive efforts and initiative of Japanese technicians industrialists farmers workers including females and businessmen Japan has emerged from the ruins of 1945 into one of the economically advanced industrial nations during the last 30 years on the international stage. The untiring heroic efforts of the Jews in the recently formed Israel and the national efforts of war torn Germany also bear witness to this fact. This is the result of deep rooted national sentiment of the citizens of these countries. On the other hand India the country of the Ganga, the Brahmaputra, the Yamuna the Jelum the Tungabhadra and other rivers, rich in soil and minerals, favourably placed with large running sea coast on the map of the world has lagged horribly behind these countries despite her vast population of 600 millions bubbling with varied talents and potentialities. The comparative table of per capita annual income in rupees for 24 countries in 1973 is revealing:

No.	Name of the country	Population in crores	Per capita income in 1973 in Rupees
1	U. S. A.	21.00	37,000
2	Sweden	0.80	35,000
3	Canada	2.18	32,000
4	Switzerland	0.64	31,500
5	Britain	5.58	18,500
6	France	8.17	26,000
7	West Germany	6.16	28,000
8	Japan	10.83	18,000
9	Italy	5.43	18,000
10	Israel	0.31	15,000
11	Turkey	3.70	3,200
12	Peru (North U. S. A.)	1.35	3,200
13	Argentina	2.40	7,300
14	Brazil	10.15	3,700
15	Egypt	3.50	2,920
16	Shri Lanka	1.30	1,220
17	India	57.40	660
18	Nepal	1.25	600
19	Burma	2.90	525
20	Indonesia	12.30	525
21	Nigeria	7.10	600
22	Tanzania	1.40	675
23	Pakistan	6.50	700
24	Bangla Desh	7.50	450

The comparative figures highlight our national inefficiency, indifference and, to use a bitter but true word, inertia. In the period during which Japan and Germany came up so appreciably, we have not been able to increase our per capita income and GNP in a comparable manner. We should ask ourselves where we have missed and whether border hotlines are solely responsible for affairs. Israel faces this constant threat from her very birth and yet she has shown remarkable progress. Demographic problems are not only peculiar to India. How then can India account for her lagging behind despite all favourable topographical, mineral, geographical and marine conditions? This is a question we must ask ourselves before it is too late. We should introspect and diagnose the disease from which this nation-a country of brilliant past-suffers. The forces of disintegration are not

the only reason for this shamefully slow rate of progress If one goes into the details, one would find that during the last 28 years, this country of philosophers has given more exercise to the tongue than to muscles and that the traditionally inherited inertia and fateism right from the middle ages in the Indian history are no less responsible for our lagging behind than the lack of proper and clear action programmes for planned progress or the lack of the spirit of national solidarity Going still deeper into the reasons one would realise that we have so far failed to instill necessary zest and insight into our workers in any sector of our economy and that we have not been able to evolve necessary trained manpower for various stages of our national economy Three major Education Commissions recurrent meetings of Central Advisory Board of Education and conferences of administrators and educationists have not been able to cure education off its dysfunctional and elitist nature and to evolve dynamic linkage between education and economic growth although both must needs develop mutual cause and effect relationship with a view to ensuring right type of human resources for the right type of economic growth needs at the right moments In this context the statement made by Mr T A Pai, Union Minister of Industries and Power at Bangalore on May 30 1975 is glaring He states that the number of educated unemployed registered on the live registers of employment exchanges is more than ten millions out of whom more than 25 lakh are science and technical personnel According to him the growth rate of the number of educated unemployed is 15 lakhs per year and he stressed that the primary duty of the Government is to solve this tough challenging problem This statement is revealing about dysfunctional educational system of our country This number of educated unemployment does not include those who are under-employed or mis employed nor does it include the educated girls who do not require employment and youths who have joined their family profession or have been self-employed This situation is the result of the lack of any linkage among education various sectors of economy and five year plans of the Union and state Govts With more than one hundred universities such a vast number of educated unemployed and such a tremendous pace of the growth in numbers of educated unemployed every year, one wonders what a criminal wastage of human and material resources we are tolerating as a nation ! Our resources are scant, our capacity to invest in education is limited and if we do not care to ensure that every paise spent for education either from Government treasurer or from voluntary organisation or from parents must bring desired results in terms of

national prosperity, we would do better if we deschool the society in a bold and prepared manner to face all consequences of dislocation of teachers who are fed from public without any national benefit. If we want to have formal schooling for our children, the entire programme shall have to be radically recast and our educational structure shall have to be completely revolutionized. India cannot afford to waste a single paise and what is more important, India cannot afford to waste the prospective energies and potentialities of her growing generation by compelling them, for want of other alternatives, to be mentally and spiritually suppressed under the grinding stone of dysfunctional institutionalised education, simply to produce frustrated, impotent and despiritualised youths who ultimately resort to escape-mechanism through antisocial activities and desperate alliance with anarchist forces. India must purge herself of a century-old concept of university as preached by Cardinal Newman and his followers and must weigh every educational activity in national utilitarian terms. This educational revolution must be the topmost basic national mission during the seventies so that we can see prospering Indian democracy in the last two decades of the present century.

Fight Against Illiteracy

Illiteracy is one of the greatest obstacles to our march towards progress. Literacy is the pre-condition of the conscientious use of franchise and the very foundation on which the epitome of a democratic welfare society can be built up. Indian Republic has been wedded to indiscriminate adult franchise and, unfortunately, majority of the voters at every election are illiterate, having little knowledge of the fundamentals of democracy, value of vote and the constitutional value of democracy in which every one has to participate by adopting and assimilating it as a way of life rather than quinquennially recurrent event. Though during the last twenty five years people are being very slowly indirectly educated through the processes of elections of panchayats, legislatures and parliament, this process of arousing mass consciousness towards democratic values has been found too feeble to face nefarious tactics of politics of money and other material allusions and to enable a typical voter of India to weigh between good and evil from national point of view. These illiterates are easily led away by the opinions of others rather than their own opinions built up by their own good sense. Evils like casteism and other forces of national disintegration are considerably due to mass illiteracy which stands uncontrolled even after incessant efforts for literacy by social education workers and massive literacy campaigns organised in the past.

As the report of the committee of the Planning Group on Education stated in 1968, "The adult illiterates have not been given sufficient attention. The percentage of literates increased from 17 to 24 during 1951-1961 and the number of illiterates also increased from 298 million in 1951 to 334 million in 1961. The number of illiterates in the age group 15-44, however, was 131 million. In 1968-69, it is expected that the number of illiterates in the age group 15-44 would be about 150 million. Adult education is a crucial sector where all studies have shown that it is possible to get a quick return in economic terms. Its neglect, therefore, has seriously affected the developmental efforts of the country." The Conference of African states held in Addis Ababa in 1961 stressed : "Literate population is essential to the economic development of emerging states."

The world congress of Ministers of Education on the Eradication of illiteracy convened by the UNESCO in Tehran from 8th to 19th September, 1965 resolved as under:

"The Conference held in Tehran on the gracious invitation of His Imperial Majesty the Shahinshah of Iran :

Considering that the universal Declaration of Human rights proclaims that every one has the right to education; considering that the constitution of the UNESCO proclaims that the whole diffusion of culture and the education of humanity for justice and liberty and peace are indispensable to the dignity of man and constitute a sacred duty which all the nations must fulfil in a spirit of mutual assistance and concern;

Noting that the attainment of literacy by the hundreds of millions of adults who are still illiterate is of fundamental importance for full economic and social development and that without it there can be no complete and active participation of the peoples in national civil life;

Noting that literacy, which more particularly affects the population of developing countries and the women of many countries accentuates the unfavourable position of these people who suffer from a form of de facto discrimination which must be eliminated;

Convinced that illiteracy affects not only the people directly involved but the whole of mankind, whose progress it impedes, and that all nations must cooperate in the fight against this evil;

Desirous of asserting the principles that should govern the struggle to eradicate illiteracy and defining the measures, national and international, that should be taken in this regard; adopts the following general conclusions and recommendations:

1. The development of the modern world, the accession to independence of a large number of countries, the need for the real emancipation of peoples and for the increasingly active and productive participation in the economic, social and political life of human society, of the hundreds of millions of illiterate adults still in the world, make it essential to change national education policies. Education system must provide for the educational training needs of both the young generations who have not yet begun working life and the generations that have already become adult without having had the benefit of the essential minimum of elementary education. There is no contradiction between the development of the school system, on the one hand, and of literacy work, on the other. Schooling and literacy work supplement and support each other. National Education plans should include schooling for children and literacy training for adults as parallel elements.

Adult literacy, an essential element in overall development, must be closely linked to economic and social priorities and to present and future manpower needs. All efforts should therefore tend towards functional literacy. Rather than an end in itself, literacy should be regarded as a way of preparing man for a social, civic and economic role that goes far beyond the limits of rudimentary literacy training consisting merely in the teaching of reading and writing. The very process of learning to read and write should be made an opportunity for acquiring information that can immediately be used to improve living standards; reading and writing should lead not only to elementary general knowledge but to training for work, increased productivity, a greater participation in civil life and a better understanding of the surrounding world, and should ultimately open the way to basic human culture.

Literacy teaching should be resolutely oriented towards development, and should be an integral part not only of any national education plans but also of plans and projects for development in all sectors of the national life. In view of mankind's needs to-day education can no longer be confined to the school; the necessary promotion of adult literacy makes it essential to integrate all the school and out of school resources of each country. Functional literacy for adults must, moreover, involve the whole of society and not governments only. It demands the co-operation of all the forces in the nation and, in particular, local authorities and communities, educational, scientific and cultural bodies, public and private enterprises, nongovernmental organisations, political groups, religious movements, women's organisations and so on.

" The main responsibility for the struggle against illiteracy rests with countries which still have illiterates among their populations. The mobilisation of the human and material resources of these countries is fundamental to the success of the efforts that should be undertaken by all mankind with a view to eradicating this evil.

2. The disproportion between the immensity of the task to be accomplished and the limited material and human resources of the developing countries, and the introduction of new elements in literacy policy, including the transition from rudimentary to functional literacy and diversification of literacy programmes, call for new solutions to the problems involved in the training of instructors and their selection and in the educational infrastructure needed to overcome illiteracy.

" The new concept of functional literacy makes it necessary to reconsider the question of the personnel needed to carry out programmes. To ensure full mobilisation of resources, the teachers must be supplemented not only by specialised instructors or, if they are not available, by specially trained voluntary workers, but also by the members of all the 'groups' that make up the educated sector of the national community.

" Functional illiteracy depends for its success upon an appropriate infrastructure, on the job educational facilities, out of school facilities in the villages and the towns, and so on. It also proposes the use of schools as literacy centres and the creation of a number of services specialised in research and in the preparation of teaching and reading material and publications. The literacy programmes should be considerably enlarged and the duration of teaching extended accordingly.

To be effective, literacy work demands programmes sufficiently diverse in form and content to take account of differences in age, sex, condition, environment, the field of interest of the adults concerned, their motives and immediate employment openings. This diversity presupposes research into the psychological and social characteristics of the different categories. In addition, the existence of many linguistic groups and the determination of many Governments to provide literacy training and adult education in the mother tongue of the people concerned will probably involve special linguistic studies and the transcription of non-written languages.

The elaboration of teaching methods adapted to the mental habits of adults, to the psychology and way of life of the different social and occupational groups and to the actual content of this new teaching

constitutes one of the major tasks of modern pedagogical science. Literacy and adult education techniques, reading materials and the texts used need greater diversification so that they can be adapted to the differing needs of each society.

The need to carry out an immense task within a short period demands that traditional techniques be judiciously combined with the most modern ones. The lack of qualified teachers, the need to reach millions of illiterates scattered over vast territories, and the power and attraction of sound and image speak in favour of using non-conventional means of communication and modern techniques, e.g. radio, television, films, the press including pictorial newspapers and certain forms of programmed instruction. Indeed, their utilisation will add a new dimension to adult education. But the massive use of such media to create suitable motivations for learning and provide education, in areas having a high proportion of illiterates, will require experiment and a very careful evaluation of its results. The immensity of the task and degree of social involvement required for its accomplishment make very necessary the judicious use of acquired experience. A series of thorough investigations and a scientific evaluation of programmes and their economic, social and educational aspects should therefore be carried out. The evaluation should make it possible to compare the results of programmes carried out in different countries and to estimate the return on investment and the effectiveness of the means used, direct and indirect, long term and short term. The results of these studies and evaluations should be made available to those who throughout the world, have a direct or indirect interest in the problem of illiteracy.

3. (a) Although the Chief responsibility for the struggle against illiteracy lies with the countries which still suffer from it, the assistance of the international community as a whole is essential to the success of this great undertaking.

(b) Obviously, every country that is fighting against illiteracy among its people must define its needs and priorities and draw up its plans and so determine the direction of bilateral and multilateral aid.

(c) An important feature of international co-operation should be an exchange of experiences and closer contacts between the countries concerned. The similarity of aims and the variety of solutions chosen make it desirable to strengthen this co-operation between the developing countries.

(d) In determining the priority to be given to literacy work in their bilateral aid programmes, developed countries should take account of the priority fixed by the developing countries which are to receive their aid.

(e) The contribution that literacy can make to the modernization of agriculture, industrialisation, the increased mobility of labour and the strengthening of international trade justifies an increase in international assistance at the pre-investment level. It would be desirable for the United Nation's special fund to extend its assistance by providing aid for an increasing number of experimental literacy projects carried out in accordance with UNESCO's programme and by including literacy work in various pre-investment projects. It is highly desirable that UNESCO should be enabled to expand and extend to a greater number of countries to the excellant experimental world literacy programme adopted by the General Conference at its thirteenth session.

(f) To the extent that literacy is essential to the implementation of economic development projects, particularly agricultural and industrial projects, international and regional authorities which have investment funds at their disposal should devote a part of them to literacy work.

(g) The complex nature of literacy work and the many, different responsibilities involved in carrying it out call for close cooperation under the aegis of UNESCO, between all the competent international organisations and agencies and in particular the various specialised Agencies of the United Nations.

(h) It is adjudged desirable that bilateral co-operation programmes and international assistance programmes should be properly fitted into national programmes : here again, UNESCO can play an important part as a catalyst.

(i) In accordance with its mandate and in view of its past and present activities, UNESCO is called upon to play a vital role in the world struggle against illiteracy and in the concerned action which implies that UNESCO should take action (1) to promote exchanges of information and knowledge of the most fruitful experiences; (2) to encourage and organise study of the different aspects of literacy work throughout the world; (3) carry out a comparative evaluation of the different structures, means, and methods of functional literacy work; (4) to further the training of the personnel required for the implementation of functional literacy programmes; (5) to

advise member states in the preparation and implementation of literacy programmes; and (6) to encourage and sustain public determination to continue and intensify national efforts and international cooperation until illiteracy is eradicated. For this, UNESCO must be able to devote more substantial means to the struggle against illiteracy both through the commitment of more of its own resources for the purpose and through receipt of additional external resources.

The Conference was "convinced that the struggle against illiteracy, aimed at the total eradication from our planet of the scourge of ignorance, is a moral imperative for our generation."

The observation and recommendations of the world conference of Ministers of Education on the Eradication of illiteracy deserve immediate and careful attention of all developing countries who should make a planned concentrated effort to eradicate illiteracy which is a stumbling block to their progress. According to the statement made by Mr. Volter Powli, Director of United Nations Food and Agriculture Organisation (FAO), as per potentialities of agricultural implements, agricultural production techniques available at present with the developing countries, they can produce food-stuffs sufficient to feed their peoples upto 2000 A.D. and possibility of increasing production commensurate with implements and technology in demand; because there are 400 million farmers in the developing countries most of whom depend upon small fragments of arable lands, and that legislations in favour of optimum farm-size are not made quickly by governments of these countries. The experience in India is the same. Land legislations are opposed by big farmers, sub-divisions and fragmentation of land are traditionally notorious, indigenous, inherited techniques and implements are used by illiterate farmers; educated youths are inclined to escape from the drudgery under the sun, showers and shivers. Despite various efforts, though not to the desirable extent, for green revolution in the country through the five year plans, we have not been able to achieve expected results on account of traditionalism and results on account of traditionalism and inertia, which are attributable solely to mass-illiteracy. The picture in scheduled and backward areas is still darker. Literacy and growth in agricultural production have mutual cause and effect relationship. The same is true for other sectors of our national economy. What India needs badly to-day is an army of skilled, well-informed and diligent workers on farms and in factories. This is possible only through literacy, not confined in connotation to reading and writing but functional and comprehensive in approach. Our earlier

efforts through the National Institute of Fundamental Education and through repeated mass-literacy campaigns all over the country during the last twenty five years have not yielded desired results in the form of increased production because of their formal nature and unsuitability to adult psychology. It is a good sign that we have now realised this and have started functional literacy programmes in the form of pilot projects. This would cover only a bare fragment of the vast task before us. Multilateral, functional literacy programmes covering all parts of the country, villages and cities, involving a big army of trained teachers, extension workers and social workers remain to be taken up as a national challenge by us all.

Functional literacy programmes for the weaker sections of the society, especially women and the poor as well as seminomadic deserve more careful consideration and planning; for they would be more social and economical than educational. The programmes for these sections, being complicated by the very nature of the problem, require well trained, devoted, enthusiastic and persevering field workers adept at inter-personal communications. Training of such persons itself is a challenge to educationists and development authorities in view of the nation-wide dimension of the problem!

Programmes for illiterates between the age group 15-25 are of utmost importance. In his inaugural address, Prof. S. Nurul Hasan, Union Minister of Education, Social Welfare and Culture at the thirty-seventh meeting of the central Advisory Board of Education at New Delhi on November 4, 1974 stressed this problem thus:

"A reference must be made here to another important programme of mass-education, namely, 'the non-formal' education of the out of school youth in the age group 15-25! This is a group of vital importance for every country from cultural, demographic, economic, political and social points of view. In India, it numbers about nine crores, out of whom five crores are illiterate, and two crores are semi-literate. We do not have at present even a minimum communication with this significant group. It is, therefore, necessary to develop a programme of non-formal education for these young persons. The content of the programme will be broad-based and include the upgrading of vocational skills, education for citizenship, family-life education, functional literacy, programmes of sports and recreation and participation in community or national service. It is necessary to develop the programme in a big way within few years". India cannot afford to waste away such a great asset in the form of energies-the army of seven crore youths between 15-25 on

whom the future of Indian democracy depends. This is not only one of the greatest national challenges, but a horrible national shame to India which could achieve considerable progress in science and technology through atomic blast and space science achievement. If this could be done with two crores literate youths, what marvels can India achieve with nine crores well-placed youths ! This should, therefore, be a matter of grave concern for the thinkers and planners of the nation.

Mass-illiteracy to such a "horrible extent is not, solely attributable to poverty, lack of public consciousness towards the utility of education of boys and girls, traditionalism and inertia in scheduled and tribal as well as in economically backward areas, etc. Our formal nature of education, unpreparedness and half-heartedness on the part of our teachers and our year-wise, class-wise, partitioned, uninteresting educational programmes with unbefitting examination hurdles resulting into gigantic problem of stagnation and wastage in terms of human and material resources are no less responsible for leading promising boys and girls towards the mass of illiterates. Stagnation in the first three years of formal schooling is too notorious to require any mention here. The disheartened boy, imprisoned into the unnatural and inhibitive formal school atmosphere gets himself de-schooled with little knowledge of reading, writing and counting which are forgotten by him very soon. This lapse into illiteracy is horrible. We as educational psychologists recognise individual differences in all respects among a homogenous group of children (the same chronological age) and still impose uniform and yearwise, class-wise, compartmentalised, single-entry system of education on all members of that group. This is not only unnatural, but it is inhuman also. We cannot expect, varied talents to be developed for over-all national welfare with this system of education. The Central Advisory Board of Education in its meeting held on November 5, 1974 has rightly resolved as under :-

"The Board is convinced that the goal of universal education cannot be realised through an exclusive reliance on the formal system of education with its single-point entry, sequential character and full-time institutional instruction with full time professional teachers. The Board, therefore, recommends that a radical reconstruction of the existing system should be carried out through the adoption of multiple entry system and a large scale programme of part-time education for those children who cannot attend schools, for some reason or other, on a whole time basis. Programmes for such reconstruction should, therefore, be drawn up in all States, and their implementation should begin from the next academic year at the least. A massive programme

of educating public opinion in favour of these changes should be launched by the Central Government, State Departments of Education, State Institutes of Education, the Inspectorates and the teaching community. The State Department of Education should make special efforts to orient the teachers to meet the new challenges. The curricula needed for the purpose, the necessary learning and teaching materials and techniques will have to be immediately prepared by the State Institutes of Education."

Regarding out of school youth (15-25), the Board resolved as under:

"The Board welcomes and endorses the strategy proposed by the Ministry of Education for providing programmes of non-formal education to out of school youth in the age group 15-25 and recommends

(1) that adequate financial allocations be made in the State plans for non-formal education for the age group 15-25 on the basis of well defined norms set-up by the State Government (broad guidelines on the subject may be given by the Government of India)

(2) that the programme should be flexible, diversified and functionally related to the needs and interests of youth and should equip them for participation in developmental activities;

(3) that during the current year 1974-75, all efforts be made to begin the programme in (a) one district in each State with Central assistance and (b) at least in one additional district with State funds; and

(4) that by the end of the fifth plan an effort should be made to cover at least six to seven million illiterates in this age group."

For illiterate adults not falling within the age group 15-25 i.e., 26-45, the Board resolved :

"Programmes of adult education are of great significance for the success of the programme of universalisation of elementary education as well as for securing intelligent participation of the people in all programmes of national development. They should, therefore, be developed on a priority basis. In particular, the Board recommends that the Functional Literacy programme which represents the single largest on-going effort of intensive non-formal education linked to a developmental activity should be strengthened and expanded and that similar functional literacy programmes should be developed in relation to the other developmental schemes appropriate to rural and urban situation. The Board further recommends that the adult education programmes should form an in-built part of every developmental activity whether in rural or urban, public or private sector, and that every Central and State

Ministry/Department should make appropriate provision in the respective scheme."

Such resolutions of general nature recur from year to year through the annual meetings of CABE and through other important meetings and conferences of educational planners, thinkers and executives, including State Ministers of Education, but nothing concrete comes out of these. The target of covering six to seven million illiterate youths in the age-group 15-25 i.e. about ten percent of the total mass in the group is self-defeating in the sense that equal, and even more, number of youths will join this, illiterate mass of seven crores and even at the end of the fifth plan we shall be where we are to-day or even in a worse position. It is also doubtful whether this very mild target will be achieved in view of the distressing and traumatic experiences, revealed in the inaugural speech of Prof. Nurul Hussan, Union Minister of Education, Social Welfare and Culture on November, 4 1974 in the thirty-seventh meeting of the CABE. He said, "We are meeting at the critical time and against a distressing background. The experience in educational planning during the last two years has not been dissimilar to what happened at the time of the formation of the earlier Five Year plans. The gap between needs and aspirations on the one hand and the availability of resources on the other, which has been a common feature of all the plans has, however, been widening with each successive plan, and hence this experience of plan formation is becoming more distressing and traumatic as time passes. For the fifth plan, we started our exercise with great hopes and in high spirits and formulated a plan, not over-ambitious, which was estimated to cost Rs. 3320 crores for Education and culture, or roughly about 10 percent of the total outlay of 32,000 crores which was then anticipated in the public sector of the plan. When the document on approach to the fifth plan was adopted, an outlay of Rs. 2200 crores only was indicated for Education and Culture. The standing committee of the CABE then revised the earlier proposals, identified priority within priorities, and prepared a modified but still viable and worth-while plan. The Draft Fifth Five year plan made a further reduction and allocated only Rs. 1726 crores to Education, although the total plan-outlay had risen to Rs. 37250 crores. The proportion of allocation to Education to total outlay has generally been decreasing from plan to plan: it was 7.6 per cent in the first, 6.00 percent in the second, 6.8 percent in the third, 5.1 percent in the fourth and only 4.6 percent in the fifth plan. But even this is not the worst of the story. The allocation for the first year of the plan was originally fixed, when the budget estimates were sanctified.

ioned, at 10 percent of the plan allocation instead of usual 14. But drives for economy started almost as soon as the budgets were passed and the reductions even in the approved allocations have been very large—from 20 to 50 percent—and we have not been to their end as yet. We have also been informed that the allocations for the next year will be at the level of the current year (1974-75). With the allocation for the first two years of the plan being at this level, there is little likelihood of education getting anywhere near the proposed outlay of Rs. 1726 crores over the plan period. The fifth plan outlay on Education is thus proportionately the lowest on record. The situation becomes even more distressing because of the inordinate rise in prices. I must confess, it is difficult to foresee when the situation will improve and if past experience is any guide, one should not be surprised if the proportional allocation to Education goes down still further in the Sixth plan. — (This has actually happened within a year only.)

"This is indeed a grave situation for Education. It appears as if we have been forced into a situation of living almost exclusively for the immediate present and are unable to plan for the future. In spite of our conviction, we seem to be drifting along a course of action which assumes that man can live by bread alone, little realising that such a course would ultimately make bread itself more scarce than common. Quite rightly, there is a deep disappointment and concern over these developments in the Government, the public and in the entire academic community. There is also a strong demand that we should make a concerted bid to secure greater attention, a higher priority and a larger allocation for the development of education. All the same, it is evident that these efforts can only have a marginal success. If man does not live by bread alone, he cannot live without it either; and in the extremely difficult situation through which the 'country' is passing at present, Education will have to accept financial stringency as inescapable in the foreseeable future and live with it, like an arrow sunk deep in its chest, in spite of all hurt it causes."

The Real Hurdles

'A really sad picture indeed! The financial stringency described as distressing and traumatic by the Union Minister of Education augurs ill for the educational progress in India during seventies. It is even more distressing to note that even though the total allocation of the Fifth plan has been raised from Rs. 32,000 crores to Rs. 37250 crores, the allocation to education and culture activities has been downgraded from about 10 percent to 4.6 per cent, and now even lower. The slogan'

"Education—the Agent of change" seems to have remained only on the lips of our general and educational planners. The axe of national economy first falls on education. This is most unfortunate in as much as it reveals the real priority given to Education by our national planners. Still more horrible distressing fact, revealed through the inaugural speech of Prof. Nurul Husan in the meeting of CABE on November 4, 1974 is that the feeling and belief, deeply rooted since Macaulay's scheme of education had materialised, that educational reforms can be promoted by central and State governments only still persists. The unparallel capacity of the community and voluntary efforts to promote educational progress is unpardonably ignored. Popular efforts can accomplish what Governmental formal and routinous efforts fail to achieve. This truth is little recognised at all levels and in all fields of public activity. Even after twenty nine years since August, 1947, we ignore the famous aphorism of Edmund Burke "No taxation without representation" in its real essence. This has no reference to the indirect representation through elections at various levels, but this pertains to the fact that we have been more and more rigidly centralising and governmentalising all facets of educational process, leaving little scope for popular initiative and even for the initiative of the field workers on which only the real progress of education can rightly depend. In this respect we are departing farther and farther from healthy democratic process of educational planning and implementation prevailing in democratic nations like U. S. A. and Britain and going nearer and nearer centralising process of educational planning and implementation obtaining in dictatorial regimes. This tendency is no less responsible for dull and inert picture of education in India. Creativity has no scope to contribute its might for enlivening and invigorating education. Originality and resourcefulness are imprisoned in the rigidity of formal prescriptions from outside the school. Ever hanging sword of penal authoritarian action intimidates efforts toward innovations through action researches and experiments. The tightening goal of public examinations limits and artificialises learning and teaching efforts in schools leaving much to be desired for the free, natural and all sided growth of our rising generation. The results of such a situation are too obvious to require any mention. Democratising and socialising educational planning and implementing and individualising learning process is the greatest of all great national needs to-day. The present situation should become an eye opener to our national planners and governments. Earlier we realise this gross error in our mode of educational planning and implementation thereof, the better good we shall be able to deliver to

our expectant and potential boys and girls. This refers more to the administrative part of the system than to the educational part thereof; but the ultimate sufferer is the educand—the citizen of future India on whom depends the strengthening and enriching or otherwise of Indian democracy. This position should, therefore, be considered as a big national challenge warranting immediate attention of educational thinkers, planners and administrators.

Socialization of educational planning and implementation is a huge process of evolution requiring patience towards initial turbulence, mohism and opposition of the teachers who may not like to be disturbed from district-wide set-up into localised set-up of smaller coverage. However, if the process is set and allowed to grow with all reasonable freedom which should increase in the direct ratio with the growth of the process, the opposition from the teachers would be a great hurdle to cross for setting this process. It is most unfortunate for India that trade unionism among teachers, which is normally exploited by the political parties to grind their own axes, is growing to the extent which is detrimental to the educational growth in all respects. Any departure from the set routine or structure which would be desired to be brought in the field for the betterment of educational programmes is greatly opposed by the teachers' unions. This is evident from the news flashes regarding unreasonable opposition of teachers' unions against the simple introduction of structural change (10 + 2 + 3) in the field of education in various parts of the country. This is indicative of undesirable and uneducational attitudes of teachers on whose efforts depend inspiration of learning efforts among our growing boys and girls. Right from University Education Commission up till now the educational planners and thinkers have been advocating upgrading teachers' socio-economic status irrespective of the demands put forth from time to time by teachers' unions. Considerable governmental efforts also have been made to achieve this goal of raising teachers' status within the limit of the public exchequer with the result that teachers' socio-economic status has been upgraded during the last twenty five years although the process still requires to be accelerated by granting emoluments inducive for talented persons in the field and by extending triple benefit scheme to them as is the case with the government servants. But it is the hard and bitter truth that teachers engrossed in trade unionist approach have been dwarfing their own status. Dignity of the profession, Gurukula, has become conspicuous by its absence among our teachers. Sincerity and devotion to the job and love for learning and teaching which were experienced in tenured teachers a generation

ago are no more seen in an average Indian teacher to-day. Anxiety and zeal for refreshing oneself with the latest developments in the content and methodology of a subject one has to teach have evaporated from the field in the heat of processions, morchas, gheraos, dharmas, relay fasts, etc. It is most distressing to note that at a time when total human knowledge doubles every decade and when educators of advanced countries continuously strive to keep themselves abreast with the strident growth of science and technology, changing values of individual and social life and new growing national and international aspiration and are constantly busy removing deadwood and introducing new modern essentials in the curricular programmes, Indian teacher is not only shamefully indifferent to this phenomenon but goes to the extent of opposing introduction of new contents and programmes and reveals himself as a vested interest in the field forgetting surprisingly that the only vested interest that can be recognized in education is the interest of the pupils on whom his very existence depends. The entire teaching and administrative human world in the field of education exists for the growing boys and girls of the nation who are to play their role as native citizens of democratic India till this end of the first quarter of the ensuing century and who have to hold the banner of Indian democracy in line and at the similar height of the banners of advanced countries on the international stage. If the teachers and administrators in education do not realise this at the earliest, the modern educand will not tolerate this betrayal and the whispering slogan 'teach us well' will sound along the death-knell of the existing citadel of the evil vested interests, playing with the future of the innocent boys and girls. The growing consciousness of the parents also will not pardon such selfish trade-unionist attitude and money-mindedness of teachers who want to get, out of proportion with the efforts they put in for enlivening, enriching teaching-learning programmes in context with ever-changing and ever-growing knowledge, techniques and values of life. A few efforts made by Head-Masters and administrators for qualitative improvement of education through stray seminars, symposia, educational fairs, etc. in collaboration with extension service agencies and under inspiration of National Council of Educational Research and Training can be described as a thin silver lining around the cloud of indifference and inertia roaring with filthy material demands and opposition to any reform or innovation demanding hard labour and mental exercise. This ever-dwarfening stature of an average Indian teacher is a great national worry which should warrant attention of all who cherish a dream of prosperous India in future.

Unless this great obstacle is overcome, a promising background for socialization and democratization of education will remain far from our reach.

The average student in India from his initiation to the formal school till he leaves it with or without certificate or degree looks imprisoned into the fetters of the dysfunctional system of education. He does not see any purpose in what he is taught in school by unprepared and irresponsible teachers. His interests, aptitude, potentialities, mental and physical needs, are cruelly crushed in the uniformly prescribed and compartmentalised examination-oriented school programme which never recognises individual differences in a seemingly homogeneous group of forty to fifty pupils. He looks askance at the imposition of knowledge-rather compartmentalised in various subjects in the class room and home work or assignments in the similar form to be done by him at home. Though not attentive to this artificial process in which he is not basically interested, he sits silent with turbulent and truant mind in the class room and does the drudgery of uninteresting home-work simply out of fear of teachers and parents. 'Sit down to your study table' is the usual authoritarian order of parents to children at their slightest attempt to reveal their innate interests in games or hobbies, provision of which is conspicuous by its absence in schools. Interesting learning programmes and purposeful projects have no place in a school which has to rush through the cycle of prescribed syllabi year to year, finally leading to a public examination after a 'set number' of years. The school as such has no time or scope to provide for development of individual interests of every pupil. The average Indian school is too poor with too poor human and material resources to give learning-oriented school programmes which only can interest pupils. The fact that true education is a process of providing environmental stimuli that would attract appropriate responses of and generate inspiration, confidence and perseverance among the educands is totally ignored in essence in school programmes whose programmes and executors are satisfied with the question-answer method which is considered by them as stimulus-response process. Provision of a few extra-curricular, call it co-curricular activities-within the framework of school programme is too insufficient for allround development of pupils. Mechanical upward movement of pupils from a class to an upper class or his stagnation in the same class as decided by the school annual examination results is the usual course in every school under governmental prescriptions. Authoritarianism is rampant in schools and homes crushing hopeful futures of children with all loud discussions and lip-reverence to

Pestalozzi's principle of paedocentric education. On the consideration of the child-centred education, we find neither naturalism of Rousseau nor pragmatism imbibed by American schools, nor do we find idealism professed by various educational thinkers including Gandhi, Tagore and Sri Aurobindo or the mixture of all or some in Indian schools. The reaction to this situation becomes gradually discernible at the school level and university level education. The teenagers with all the turbulence of adolescence and the feeling of revolt to authoritarianism based on their experiences at their first level education grow into a challenging problem to teachers, administrators and society. The school programmes and methods of teaching leaving little to self-learning by these reliable groups, with no provision for development of individual interests and potentialities do not attract their minds and efforts. The increasing self-consciousness and turbulent mind of the adolescent in a class-room lead him towards truancy, day-dreaming and disgust to the monotonous sound from the chair, unless the teacher is well-prepared and resourceful enough to keep on engaging his mind in what is to be learnt by him with his help and through his talks in the class room. Such teacher's, method, personality, etiquette and behaviour lead to another extreme effect on their adolescent pupils who are led to imitate him. This hero-worship, too, does not help towards development of the pupil's real individuality and personality. Such incidents, however, are rare in view of the present human stuff we have in our schools. The public examination at the end of the second level education casts its shadow on the total programme of the second level education. Hence, the same programme of rushing through the prescribed syllabii which is heavily crowded, with much of dead wood also, year to year continues at this stage also with little consideration of the variety of interests, aptitudes and potentialites in class-room group of adolescents. This situation leads to the problem of students' indiscipline among middle teen-agers of the high schools which is not yet recognised by teachers and administrators as more academic than anything else. Unrecognised adolescents are bound to create problems of school indiscipline. This is but natural and should be confessed by us all as our failure to provide suitable varied opportunities for self-development of the school adolescents. Revolt against authoritarianism and uninteresting school programmes, if not checked and channelized towards constructive activities, ultimately results into revolt against parents and social taboos. All malpractices are no less attributable to this uniformly monotonous high school programmes. The position worsens when these students pass out high school, public examination and knock

at the doors of 4000 colleges, affiliated to 100 Universities in the country and are thrown from a class of forty to forty five into a class-hall of about 125 with a dias on which the college-lecturer delivers disinteresting lectures, to the audience of 125 later teen-agers each one of whom sits there unrecognised and hence indifferent to what is spoken by the teacher. The interaction between the teacher and the taught, which is the very pre-condition of any fruitful educational activity, which was maintained at a sufficiently higher level in high schools, is quite low and little inspiring in university faculties and colleges at undergraduate level. This results into greater truancy, *french leave* and undesirable activities of the collegians. This academic mishap is taken as student indiscipline, with no efforts on the part of teachers and administrators of higher education to solve this burning issue by revolutionising academic programmes at this level. This situation gives impetus to production of guide books, sure suggestions and unhealthy practices like mass-copying, leakage of question papers, bribing examiners, etc., with a view to getting through the 'damn' examinations. Teachers are no exception to these unhealthy tactics. They, too are responsible for this situation as they have failed to attract students' attention by developing their resourcefulness and knowledge through a process of life-long learning for which a few have time while many are busy with writing palatable easy-access literature, tuitions and trade-unionist activities. A college teacher not keeping himself ever fresh and upto-date in the knowledge about the subject to be taught by him and not maintaining his own ever-enriching library should have no right to teach and to agitate for more emoluments. We must recognise the hard fact that we the teachers are mainly responsible for the student indiscipline in colleges and schools. A teacher who does not learn throughout his life has no right to teach and a supervisor, be he the head-master, principal or Inspector, who does not learn ever has no right to supervise the teaching of those who teach. This fact should be recognised at all levels of education, if we are to prepare sound, robust and dynamic citizenry of future India.

Another anomaly in our present educational set-up is the more or less single entry, single track ladder of education which creates the problem of educated unemployment described earlier in this chapter. A high school leaver generally has to choose among traditional academic streams : Arts, Science or Commerce or traditional polytechnics. The efforts to open alternative avenues for higher education are not commensurate with the growth in the number of pupils. Multifarious programmes of higher education based on regional and national

manpower needs for the present as well as future are absolutely needed at the earliest. This is the only solution to the ever-growing problem of educated unemployment. Such programmes should grow and take newer forms as the national economy may require from time to time. This requires linkage between education and economy which must be ensured if India is to prosper. This will entail a great change-a radical reconstruction of our traditional educational pyramid which has proved dysfunctional. Such a change may have to meet protest of the vested interests, mainly teachers who may fear dislocation from their jobs; but India must reconstruct educational system so as to ensure nationally and economically functional system of education at any cost and any sacrifice because, as stated earlier, the only vested interest in education that can be recognised by the state and the society is the interest of the student. India must meet this challenge at the earliest in view of the fact that at present about 46,00,000 students are studying in 4000 colleges and faculties of 100 universities in India as against about 400,000 students studying in 695 colleges affiliated with 27 universities in India in the year 1950. This tremendous increase in enrolment at undergraduate level should be looked at with worrying concern by the educational and economic planners of India on the ground of hard realities as regards national capability to provide for white collar jobs for those lacks of future graduates who are not taught to suit to blue collar jobs and who will simply fatten the registers of employment exchanges for want of suitable white collar jobs to be made available to them. This will pose the biggest of national challenges to Indian educational and economic planners, the latter being engrossed for the last several years in finding out ways and means for lifting the country from the sea of economic backwardness and poverty.

wide-spread coverage for rural uplift and checking uncontrolled growth of urbanization. This is a vital point for balanced national development. So far it has remained terribly imbalanced. For instance, out of 47 industrial estates in Gujarat, 31 are located in urban areas, 11 in semi-urban areas and only 5 in rural areas. This is because of reluctance of individual entrepreneurs to set up small industries in rural areas. The only course for achieving proper balance and spread of industries in rural areas lies in the unparalleled potential of cooperation which requires, in turn, properly trained, honest, devoted and reliable semi-skilled and skilled man-power and managerial staff. A detailed economic and manpower needs survey is the pre-condition of revolutionizing our economic planning in this direction. Educational planning and restructuralization of education should necessarily be linked up with this process. Evolution of functional and fruitful educational pattern suited to socio-economic developmental planning is the bad need of the day warranting careful deliberations on the part of educational, social and economic thinkers, planners and executors of India.

'A healthy democracy develops and prospers on the principle of checks and balances. British democracy and democracy of the U. S. A. as well as of Australia stand sound on the materialization of this principle in the form of two parallel and equipotent parties out of which one party may become a ruling party under the ever vigilant eye and critical stand of the other. This principle of checks and balances stand on the universal truth : 'Power corrupts and absolute power corrupts absolutely'. A shrewd politician in the saintly Gandhi made him declare advisory caution note, just after India won independence in 1947, to disband the congress party which had within it groups of various political ideologies and shades. Gandhi had full knowledge of the strength of and weakness of the then congress party which, in fact was the only omnipotent national organized force. He could foresee that if the congress continued as a political party in the nation of 80 per cent illiterates, it would wield absolute power and would slip into corruption. He, therefore, advocated the dissolution of congress and formation of new parties on the principle of checks and balances. Gandhi's followers turned deaf ears to this timely advice and congress remained absolute power throughout the history of free India. Many a case of corruption has been flashed, some tried and some hushed up during the last twenty five years. The historical split in the congress in 1969 was a good omen for Indian democracy, as it gradually paves the way towards two parties in Indian democracy;

Democracy is a way of life rather than a mere form of Government. It exists for individual and social development. Therefore there are two different psychologies of development. One school believes to start a process of development after ensuring full-proof background and environment for the same, although the process may be slow but steady. The other group believes in starting the process at once and go ahead facing all difficulties that may arise on way in future. Thus, though the objective of both the schools is the same, there is difference in approach—one school being called cautious or conservative, moving slowly, the other being called progressive or radical, moving faster. It is on these two different ideologies that parties are formed and democracy prospers with vigilance and checks. Advanced democracies prosper on the adoption of two major equivalent rival parties, which command vigilant, active, well informed and conscientious membership. Developing democracies of the world with major part of the electorate consisting of illiterates, disinterested and indifferent masses, have a long road to travel to ensure such a healthy two party rivalry for forming Governments.

Indian soil has not yet been penetrated deep with the roots of democracy. The experience of the last 29 years of freedom—a generation of freedom—has not been encouraging. Anarchist tendencies have grown during this period, especially during the past quinquennium, have grown to the extent of cutting at the root of national solidarity. The timely emergency measures imposed by the Union Government for educating people in real democratic values and virtues needed for protection of national solidarity has saved the country from fast degeneration into anarchy and has been gradually cultivating a sense of nationhood and citizenship. This educative process will rehabilitate Indian democracy on a sound dynamic perspective. Thus, India is slowly on the way to have two major competing parties. This is an ominous sign. However, developing democracies shall have to base the two major parties on the principles akin to Gandhi's Sarvodaya which as preached is an unachievable ideal and on the principles akin to materialistic preaching of Marx which is another extreme recognizing no cultural heritage or religion. The two parties will be formed in between the two with differences in degree. This will require a massive programme of mass education for democratic values in social and economic terms. This is a national challenge which should be taken up immediately by educationists in developing democracies to be met in formal educational system as well as in informal educational programmes for illiterate adults in the age group 15-45, so as to evolve educated or well-informed franchise

which is the pre-requisite of two party parliamentary form of Government. When the process towards polarisation which is badly needed materialises and stabilises, there will be a thin demarcation between the programmes of both the parties with one national aim, like Jhal and Maval groups of erstwhile Indian National Congress in the twenties and thirties, although in the modern perspective, they may be called Marxist party, and Nationalist party or by any other names like Progressive party and People's party, Democratic party and Republic party, Forward party and Federal party, etc.

Indian subcontinent is a representative miniature of the world. With atomic blast and space control achieved by Indian scientists India can claim her place in the big power blocks. With capitalistic private industrial and commercial sector of national economy, she has a capitalistic strata in the total social structure though to a negligible degree. With millions of starving, or ill-fed mouths and struggling agricultural landless labour as well as industrial labour, she is no better than most of the developing nations of the world. With evergrowing trade unionist activities in all sectors of our economy-private as well as public-the radical socialist and communist-(R) and (L) groups are growing in membership. Thus capitalism, Marxism and poverty as well as pangs of developing nations of the world are growing in this country simultaneously. In this sense, India is a miniature world to day and is given the status of the fourth world on the international background. One cannot forecast what direction this fourth world will choose. As pure capitalism is out of question in view of the development during the last twelve years after the resolution of socialistic pattern of society was moved and adopted in the Awadi Congress session in the year 1963, the alternative, then, would be between Marx and Gandhi, between dictatorial communism and democratic socialism nearer to Gadhian thinking. These two major schools of thinking will decide the process of polarisation into two equivalent national parties. The developments in India in the years to come will have general impact, all over the world and special impact on the developing nations of the world. India should become aware of this potential and catalyze the process of functional mass education with a view to ensuring politically conscious and well informed suffrage. Without the slightest sense of national pride or exaggeration, it must be stressed that India cannot afford to ignore the international watch over her and international responsibility through the path she chooses. If Indian nationhood chooses the right path on the basic principles advocated by Mahatma Gandhi, she will lead the world towards the goal of total human good, peace and international welfare.

This is no exaggeration. This may come out true, if Indian endeavours are led towards right directions. India, with its glorious past, live and rich cultural heritage ever-enriched by the valuable contributions of her learned sons and daughters through centuries covering all walks of life and with the saintly preachings of Mahatma Gandhi according to whom the essence of human life lay in individual freedom from any kind of dependence, can, if she plans and endeavours in right directions, emerge on the international stage as a mighty potential world peace-maker and welfare leader. All this depends basically on the educational programmes, formal and informal, she develops by revolutionising the present dysfunctional educational pattern and on educated, vigilant and conscientious adult suffrage who would be ever-alert to react to national and international happenings and the way in which the members of the party in rule behave.

About half of our adult suffrage is female voters. Democracy can stand sound on proper female education and on socio-economic status of women. Efforts made in the post-independence India for the education of girls and adult women have not yielded desired results. The traditional exploitation of women by men is still prevailing all over India though the degree of this exploitation is gradually but very slowly decreasing. Manu's statement made in Manusmriti 'Heaven lies in honoured women' has been forgotten since mideaval Indian history. The picture is changing faster with education of girls in big cities than in rural areas and some scheduled areas where a woman is no more valuable than a buffalo. This is a national shame. Equality between men and women and the principle of partnership in married couples are the prime national needs. This is possible only through 100 per cent enrolment of girls in schools in all parts of the country. The constitutional directive does not discriminate between boys and girls; yet the social attitude is discriminating between the two. This is revealed through the following table:

Enrolment Targets for 1973-74-Class I-V (Figures in lacs)

Name of the State	Boys		Girls		Total		% enrol. ment
	Popula- tion	Enrol- ment	Popula- tion	Enrol- ment	Popula- tion	Enrol- ment	
1. Andhra Pradesh	30.91	29.36	29.05	23.24	59.96	52.60	87.7
2. Assam	13.35	13.35	12.74	8.92	26.09	22.27	85.4
3. Bihar	43.60	43.16	41.82	16.73	85.42	59.89	70.1
4. Gujarat	21.64	25.96	20.21	18.60	41.85	44.56	106.5
5. Haryana	8.63	8.14	7.83	4.38	16.46	12.52	76.0

6	Jammu & Kashmir	290	3 41	274	2 19	5 64	5 60	99 3
7	Kerala	15 94	19 76	14 85	16 69	30 79	36 45	118 4
8	Madhya Pradesh	31 24	31 24	29 38	16 16	60 62	47 40	78 2
9	Madras	23 56	30 75	24 02	26 42	49 58	57 17	115 3
10	Maharashtra	38 28	44 49	33 74	33 74	74 02	80 23	108 4
11	Mysore	22 23	23 56	20 85	20 85	43 08	46 41	107 7
12	Orissa	15 88	17 47	15 15	10 60	31 03	28 07	90 5
13	Punjab	12 66	12 66	11 48	6 81	24 14	21 27	88 1
14	Rajasthan	21 55	19 83	19 54	8 80	41 09	28 33	69 7
15	Uttar Pradesh	67 77	74 54	63 52	51 73	131 29	126 27	96 2
16	West Bengal	33 55	34 98	33 91	23 16	69 46	58 15	83 7
17	Nagaland	0 33	0 40	0 30	0 27	0 63	0 67	106 3
18	I & N Islands	00 07	00 08	00 06	0 06	00 13	00 14	107 7
19	Delhi	3 44	4 13	3 21	3 53	6 65	7 66	115 2
20	Govt Daman & Diu	0 51	0 71	0 48	0 54	0 99	1 25	126 3
21	Himachal Pradesh	3 10	3 69	2 81	2 10	5 91	5 79	97 9
22	Manipur	0 98	0 97	0 92	0 63	1 90	1 60	84 2
23	Tripura	1 28	1 17	1 21	1 03	2 49	2 20	88 0
24	Laccadive Minicoy Amindiv Island	0 02	0 02	0 02	0 02	0 04	0 04	100 0
25	N E F A	0 30	0 30	0 27	0 10	0 57	0 40	70 2
26	Pondicherry	0 28	0 36	0 27	0 35	0 55	0 71	129 1
All India		418 14	446 51	392 46	301 45	810 56	747 96	92 3

These figures in form of targets for the Five Year Plan speak about the position of girls education in India. Throughout the programmes of five year plans Indian educationists and planners speak elaborately about the weaker sections of the society among whom women are included and about equalisation of educational opportunities. It was stated in the thirty fourth meeting of the Central Advisory Board of Education held in October 1968 'Since the major problem in achieving universal enrolment is to enrol large numbers of girls, it will be necessary in most of the States to undertake special programmes to encourage enrolment of girls. These programmes include social enrolment drives through publicity and propaganda provision of girls' hostels and quarters for women teachers, provision of stipends for girls appointment of school mothers construction of separate sanitary blocks for girls in mixed schools provision of attendance allowance for teachers etc. Such recurring statements are sounded in many a conference of eminent educationists planners and social workers. Provision also is made in every plan for these purposes including other programmes like midday meals, free books and clothings etc. And yet

we have not been able to reach even the constitutional directive given in Article 45 thereof for free, compulsory and universal education. In fact, this problem is more of social values and orientation than of economic allusions. One is easily illusioned at the superficial solutions in the form of economic allusions to the problem of weaker sections of Indian society, including girls. Such superfluous measures which have devoured crores of rupees during the last four plans have failed to solve the problem which stands as an unsurmountable mountain in the fifth plan whose end will touch the fourth decade after independence. In a draft plan of action prepared by the Union Minister of education in its thirty seventh meeting held on November 4 and 5, 1974 it was stated as under :

"The most important objective in the educational policy is to provide education in the age group 6-14; we would like it to be done as early as possible and within ten years from now at the most.

The CABE has already agreed that, if the goal is to be achieved, we must abandon our most exclusive dependence on the formal system of education with the single point entry, sequential character, full time institutional instruction and exclusive use of full time professional teachers. The model is costly, limited in scope (in the sense that it does not meet the needs of workers, whether children or adults) and insufficient because of the large prevalence of wastege and stagnation. The CABE has, therefore, agreed that the existing system of formal education should be reconstructed to include a large informal element.

"In the age group 11-14, however, there has been a rather severe cut in the targets. In the draft fifth five year plan, it was proposed that the enrolment in classes VI-VIII would be increased from 156 lakhs (or 56% of the age group 11-14) to 215 lakhs (or 47% of the age group 11-14) on a fulltime basis. In addition, it was proposed that as many as 78.38 lakhs of children would be enrolled on a part time basis (or 18 percent of the age group 11-14) through programmes of non-formal education. The total enrolment in the age group 11-14, both on full time and part-time basis, was thus expected to be about 65 per cent of the age group 11-14. The CABE was not happy even with this and expected an enrolment of at least 75 percent in the age group 11-14. The plans received from the State Governments, however, show that the targets in the age group have been considerably lower. It is now proposed that the enrolment in classes VI-VIII will be increased from 148 in 1973-74 to 210 lakhs in 1978-79 on a fulltime basis; and the additional enrolment proposed on a part time basis, is only 22 lakhs. The overall

enrolment in the age group 11-14 will thus be only 232 lacs (or 51 percent of the age group 11-14 against the CABE expectation of 75 percent). It may be pointed out that these estimates are also based on the salary scales prevailing in 1974. To the extent these are revised, the number of additional teachers to be appointed will be reduced and the targets will be cut down still further.

"It thus appears that not enough emphasis has been given by the State Governments on the programmes of reconstructing the formal system of education and introducing programmes of non-formal education in a big way. Only six states have provided for programmes of non-formal education in the age-group 6-11 but of these, Madhya Pradesh alone has made provision for an enrolment of 18 lacs on non-formal basis and the remaining five states put together provide only for an enrolment of 1.76 lacs. Similarly in the age group 11-14, only 11 states have provided for programmes of non-formal education. Here again it is only Madhya Pradesh and West Bengal which have provided for additional enrolment of 13.26 lakhs and 3.90 lakhs respectively on a non-formal basis. In other States, the additional enrolments proposed are marginal. It is, therefore, clear that the policy adopted by the State Governments in this regard is different from that recommended by the CABE.

"In the opinion of the CABE, restructuring of the educational system is a programme of highest priority and it must be implemented in a big way by allocation of adequate funds. The CABE is also of the view that a more linear expansion of the existing system will not serve any useful purpose. But it appears from the plans as they are formulated by the State Governments at present that the linear expansion of the existing system of formal education still has the first priority and gets the largest allocation of funds. Programmes of non-formal education are still not accepted in many States and even where they are accepted, they are accepted in a marginal fashion. Unless these policies are changed, it will not be possible to provide universal education to the age group 6-14 within the foreseeable future.

"There must be a much better attempt to utilise existing facilities. Increasing pupil-teacher ratio should be adopted...greater use of non-formal education should be introduced....Voluntary teachers system should be introduced in primary schools...The CABE had suggested that highest priority should be given to the education of the masses rather than of the classes."

"In adult education, the C A B E, had emphasised the need to integrate these programmes with those of employment and development included in the plans. In this way, it would be possible to spread literacy to a much larger extent. In the plans as they are now formulated this does not seem to have been done. This is another issue which needs careful examination."

"An important programme in adult education is that of promoting non-formal education to young persons in the age-group 15-25. This is a very important programme which also has not received the necessary emphasis in the plans as now formulated by the State Governments. It is necessary to recast the plans in order to place due emphasis on this programme."

"Programmes of national and social services to be introduced in schools and colleges can also make an important contribution for the spread of literacy. This is another important aspect which has not been emphasised in the existing plans and needs consideration."

"In programmes of adult education as well as of non-formal education of young persons in the age-group 15-25 emphasis has to be laid on the development of programmes in rural areas and on improvement of vocational skills partly to improve productivity and partly to make the people self-employed."

In 1947 the percentage of literacy was only 14, only one child out of 3 had been enrolled in school in the age group 6-11 and only one out of 11 was thus enrolled in the age group 11-14.

Very naturally the provision of universal primary education received considerable attention from the national leadership, in the early years of the post-independence period. The post war plans of Educational Development (1944) had proposed that universal primary education should be provided for all children in the age-group 6-14 in a phased programme spread over 40 years (1944-1984). This proposal was examined by a special committee under the Chairmanship of the late Shri. B. G. Kher, the then chief Minister of Bombay in 1950. It came to the conclusion that this was too long a period and recommended that the goal should be reached by 1960. This recommendation was accepted and incorporated in Article 45 of the Constitution which laid down that States shall endeavour to provide within a period of 10 years from the commencement of this constitution for free and compulsory education for all children until they complete the age of 14 years. Even since efforts are being made to implement this directive through successive five year plans. Considerable attention was accordingly given to the

programmes for the expansion and improvement of primary education in the successive five year plans. The progress actually achieved is by no means inconsiderable. In spite of this, however, we are still far away from the goal and this will remain true even at the end of the Fifth Five Year Plan as the following statistics will show :

Plan & Year :	Enrolment in Classes I-V (Millions)	Percentage of Children enrolled in Classes I-V to total population in the age group	Enrolment in Classes VI-VIII (Millions)	Percentage of Children enrolled in Classes VI-VIII to total population in the age group 11-14.	
	1	2	3	4	5
1950-51	Boys 13.8 Girls 5.4 Total 19.2	60.8 24.9 43.1	2.6 0.5 3.1	20.8 4.3 12.8	
First Plan	Boys 17.5 1955-56 Girls 7.6 Total 23.1	72.0 32.8 52.8	3.4 0.9 4.3	25.4 6.9 16.5	
Second Plan	Boys 23.6 1960-61 Girls 11.4 Total 35.0	82.6 41.4 52.4	5.1 1.6 6.7	32.2 11.3 22.5	
Third Plan	Boys 32.2 1965-66 Girls 18.3 Total 50.5	96.3 56.5 76.7	7.7 2.8 10.5	44.2 17.0 30.8	
1968-69	Boys 34.0 Girls 19.9 Total 53.9	92.7 56.5 75.1	8.7 3.4 12.1	45.6 18.3 32.1	
4th plan 1973-74	Boys 39.4 Girls 24.4 Total 63.8	100.0 66.0 84.0	10.5 4.5 15.0	48.0 22.0 36.0	
1978-79	Boys 46.3 Girls 31.9 Total 78.2	111.0 82.0 97.00	14.3 7.3 21.6	60.0 33.0 47.0	
(Projection)					

The enrolment in classes I-V includes not only children in the age-group 6-11, but also children below 6 and above 11 years of age. The proportion of such children outside the age-group 6-11 is very large-about 80 percent of the total enrolment or even more. On the basis adopted here, therefore, the enrolment in classes I-V will have to reach about 130 percent of the total population in the age-group 6-11 to ensure that every child in the age-group 6-11 does attend school. From this point of view it is clear that we will still be far away from the goal of the enrolment in classes I-V which is going to be only 97 percent at the end of the Fifth plan period. We must also remember that the children who will still be out of school at the end of the fifth plan will mostly belong to the weakest sections of the society and the cost and effort needed to enrol them will rise geometrically (or even exponentially) as we near the point of universal enrolment.

In classes VI-VIII or the age group 11-14 we are still far away from the goal of universal enrolment because even at the end of the Fifth plan the enrolment in these classes will be only 47 percent of the population in the age group 11-14.

The figures given in the above table are for the country as a whole and they mark the large differences that exist from State to State. We have still a difficult task ahead in enrolling girls and children of scheduled castes, scheduled tribes, landless agricultural labourers, and other weaker sections of the community. Universal retention is also a big problem reminding us the huge wastage and stagnation which amounts to crores of rupees in terms of money.

This review presented before the CABE in its meeting on November 4, 1974 speaks about our failure to gauge the problem before penning Article 45 of the Constitution. Sargeant Report based on the then demographic position has come to be correct. Our target of hundred percent coverage of children within age group 6-11 by 1975 and children within the age-group 11-14 by 1980-81 also seems to augur ill. Unrealistic planning and projections are worse than no planning. A look on enrolment of girls in the age group 6-11 and 11-14, gives one the dismal picture of girls' education. This leads to increasing number of illiterates among about one half of our adult franchise. The experience of the last 25 years has taught us that illiterate franchise is a fatal disease at the root of democracy. The consequence of illiterate franchise are too obvious to require any mention. The statement made in the report of the working Group approved by the Planning Commission, Government of India, New Delhi : "We, therefore, recommend that the

programme of providing universal primary education with the directive of Article 45 of the constitution should be definitely completed in a period of ten years by the end of sixth plan (1984) or at the latest by 1986 as recommended by the Education Commission" appears to be over-ambitious and unrealistic in view of the financial stringency which is faced by the country from plan to plan. The programme of universal primary education has been assigned highest priority in all the plans and financial allocations for this programme have remained at a very high proportion compared to allocations for secondary, higher and adult education, with the result that neither we have been able to surmount the hitches in the achievement of the goal of universal primary education nor could we develop secondary education and higher education in desired directions and at desired heights. The ultimate result is that our traditional, formal, dysfunctional system of education still captures the minds of educational planners and administrators. This has rather led to the present enormous illiteracy figures for reasons more than one; although we talk about part-time, own time and non-formal education for which financial allotments are meagre. The working Group of the planning commission recommended "The traditional model of the primary education system should be radically modified on the following lines to make due provision for the education of the children of the masses :

(1) The single point entry system must be replaced by a multiple-point entry system under which it will be open for older children to join the primary schools in separate classes specially organized for their needs.

(2) The sequential character of the system must go, and it should be possible for older children to join the prescribed courses at any time and also to complete them in much shorter period.

(3) The exclusive emphasis on full time instruction that is laid in the present system should be replaced by a large programme of part time education which should be arranged to suit the convenience of children who are required to work.

(4) The exclusive emphasis on the utilization of full time professional teachers should go. An attempt should be made to utilise all the teaching resources available in the local community; and the service of part-time local teachers and even senior students should be fully utilised for promoting instruction in the primary schools.

(5) There should be no rigid demarcation between primary schools and pre-schools. Girls who are required to look after young children

should be encouraged to bring them to the school. These could be taken care of in pre-school classes or creches attached to the primary schools which are managed by the girls themselves, by turns, under the guidance of the teachers. This will provide a valuable service at the minimal additional cost and assist materially in the spread of education amongst girls from the poorer families.

These major structural changes should be carried out on the basis of the highest priority.

It is a question to determine whether these recommendations can be really accepted as structural changes and whether they are not too idealistic on the ground of feasibility. Provision of part-time education allowing older children (below 14) to attend school and utilisation of teaching resources other than full time teachers cannot be understood as structural changes. On the ground of feasibility too the recommendations except for part-time education do not seem to be feasible. In fact, this is a basic socio-economic and cultural issue, involving processes of attitudinal changes towards new values and require to be solved on real national and entire social footing which will integrate total social effort to the interdepartmental governmental efforts. When comprehensive interdepartmental development plan with educational development as an integral part thereof for each region with reference to its characteristics, attitudes and traditions is required to be evolved, Such patches in the form of recommendations will remain only mental exercises translated into words to remain in report after report. The lacunae in universal primary education is due to the slow arousal of educational consciousness among the masses in the scheduled and backward areas, among illiterate parents who see no utility of educating their daughters and among weaker or nomadic sections of the societies like shepherds, halpatis, banjaras chharas, etc. Obviously the above recommendations would not hold good in such areas or with such sections.

Illiteracy thus is a gordian knot for Indian Democracy. Gandhi could foresee the future of Indian democracy with illiterate franchise. Hence he advocated adult education programmes as one of his constructive programmes. After independence, we have launched literacy programmes on mass-scales. Now we are trying functional social education programmes with UNESCO aid. This is on a small pilot scale and pertains to a particular professional group-mainly farmers. The idea of functional literacy is a welcome idea if it materialises in a well-planned comprehensive manner, but piece-meal efforts of functional

literacy will not be able to solve this too big a problem. What type of functional literacy programmes are we going to offer to our illiterate women? Social education workers should ask this basic question to themselves and should find a suitable and effective reply to it. Attempts made during last twenty five years for education of illiterate women through mahila mandals sewing or tailoring classes activities of gram sevikas social women workers and social welfare and social defence activities have brought little dividends in the form of women literacy. Again, functional literacy programmes have not so far helped us in educating adult franchise or in increasing political consciousness among the functionally neo literates Prof Nurul Hnsan had stress on non formal functional programmes for illiterate youths in the age group 15-25 and the CABE resolved on November 5, 1974 for such out of school youths as under:

The Board welcomes and endorses the strategy proposed by the Ministry of Education for providing programmes of non formal education to out of school youths in the age group 15-25 and recommends

(1) that adequate financial allocations be made in the State plans for non formal education for the age group 15-25 on the basis of well defined norms set up by the State Governments (broad guidelines on the subject may be given by the Government of India)

(2) that the programmes should be flexible diversified and functionally related to the needs and interests of youth and should equip them for participation in developmental activities

(3) that during the current year 1974-75 all efforts be made to begin a programme in (a) one district in each state with Central assistance and (b) at least one additional district with state funds and

(4) that by the end of the fifth plan efforts should be made to cover at least six to seven million illiterates in this age group

These recommendations are repeated with a view to bringing up the basic issue whether the programmes suggested will ensure self-conscious and vigilant citizenship among these youths and whether the recommendations of the CABE regarding Adult Education will instil necessary virtues among the neo-literate adults of the age group 26-45 and even onwards from whom candidature for Legislative Assemblies and Parliaments will emerge in view of our adopted tradition of reserved seats for scheduled castes and tribes in certain areas. Unless well informed seasoned devoted and politically and socially conscious candidature for Assemblies and Parliament is ensured through educational process and socio economic efforts at all levels and in all parts of the

country, Indian democracy cannot hope to have a path to light from darkness. It should, therefore, be stressed that one of the aims of formal and informal education should be to make people socially, economically and politically conscious. This basically important aspect has remained neglected throughout 'our post-independence' educational history. Our definition of illiterate adult restricted to age group 15-45 needs also to be revised, because most of the candidates for 'Assemblies and Parliament come from the age group 45-70. Adult literacy programme should, therefore, cover all illiterate adults irrespective of age and sex. This is a challenging task requiring high priority and huge governmental as well as social efforts in terms of human and material resources. We can never over-emphasise the fact that real national solidarity and national defence depend more on well-trained and 'conscientious cent percent educated people than on army. It is, therefore, high time that we should review priorities assigned to various stages and areas of education and evolve a balanced, functional and comprehensive plan of lifelong education with highest national priority. Educational thinkers, planners and administrators should take up this challenge in the true spirit even though the realisation of constitutional directive under Article 45 is delayed by a quinquennium or even a decade more.

Vocationalisation of Education and New Pattern

Vocationalisation of Secondary education and introduction of the new pattern of education (popularly known as 10+2+3) poses a big challenge to the nation. We have so far neglected secondary education and a patch work on the secondary education commission has not purged it off its dysfunctional nature. A major recommendation of the Education Commission was that work experience should be made an integral part of all school education from Class I to Class X. In the words of Prof. Nurul Husan "This will develop skill in the use of one's hands, inculcate the dignity of manual labour and build up values and attitudes which would, not only improve the quality of general education which a student receives, but also help him in adopting a technological or vocational career." According to Education Commission (1964-66) the best stage when an intensive programme of vocationalisation can be introduced is the higher secondary stage. It also recognised that vocational or professional courses could form a part of the university stage also. The targets of vocationalisation at the higher secondary stage are large-to about 50 per cent of the total enrolment. Moreover, this stage are the most most elective stage of vocationalisation, partly because the programme would be far less costly than at the University stage. According to Education Commission (1964-66), the extent of such courses would be limited to about 10-30 percent of the total

enrolment, thus 70 to 90 percent would join traditional elitist dysfunctional under-graduate education. Prof. Nurul Husan said in his speech, "The principal advantage of the programme of vocationalisation of secondary education is that it diverts a fair proportion of students into different vocations and thereby reduces the pressures on admissions to the university. That is why the implementation of this programme was accorded a very high priority by the Education Commission, and we should lose no time in implementing this recommendation."

He further stated in his inaugural speech at the thirty seventh meeting of the CABE, "The adoption of the 10+2+3 pattern has been recommended on several important grounds. It lengthens the duration of the stage to twelve years so that part of the present undergraduate stage which really belongs to the school can be taken out. Under the system, a student will be eighteen plus or sufficiently mature to benefit himself from higher education. The reform would thus have the advantage of improving standards both at the school and colleges. Moreover, this new pattern will also reduce inordinate expansion of secondary education and also facilitate its vocationalization. When secondary education forms a continuous course, two problems are created. The first is that at the point of entry into the course, the student is too young to choose his career and the second is that once he enters the course he has no alternative but to continue to the end, thus leading to unnecessary and inordinate expansion. On the other hand, if the secondary stage is broken into two parts at the end of the Class X (10+2), both these difficulties are overcome. The student would now be required to choose his career at the end of class X or when he is about sixteen. This is a reasonable proposition. Moreover, in the next stage of two years it is possible to provide alternative courses of two categories. In the first, he is intensively trained for a period of two years for university studies. In the second, he is trained through courses of varying durations (1 to 3 years) for different walks of life. There has to be undoubtedly the flexibility in the transfer of credits. That is why the problem of vocationalisation of secondary education and that of adoption of the common pattern have to be treated as a package deal and implemented simultaneously. The adoption of this pattern in all States of the country would incidentally create a uniform structure for the educational system which is a considerable advantage in itself."

He further declared, "This reform has already been approved by the Board and included in the Resolution on the National policy on Education. It has also been implemented in Kerala, Andhra Pradesh and Karnataka. It is under implementation in Assam, Maharashtra,

Gujarat, West Bengal, Jammu & Kashmir and the Union Territory of Delhi. Other Governments are giving their serious attention to it. A stage has therefore been reached when it is possible to carry out the reform in all the states in the course of next few years. What is needed is vigorous and time-bound programme of implementation."

The CABE in the thirty seventh meeting on November 5, 1974 passed the following resolutions on vocationalisation of secondary education and adoption of uniform pattern (10+2+3) :—

Vocationalisation of Secondary Education

(1) The Board welcomes the proposal made by the All India Council for Technical Education to set up a National Council of Vocational Education and State councils of Vocational education. These councils will co-ordinate the vocational education and training of all departments of Government (including Agriculture and Health and Industry) and function as a clearing house of ideas and information.

(2) The board recommends that the new courses to be designed for vocational education should take into account the needs of skilled personnel as well as the existing programmes and facilities. In designing these courses there should be considerable freedom, elasticity and experimentation and wherever possible non-formal educational methods, particularly correspondence and evening courses should be used. Particular attention and emphasis should be given to organising agricultural and allied vocational courses, especially in the rural secondary schools. There should be provision for transfer of credits from academic to vocational courses and vice versa.

(3) The Board strongly recommends that there should be intensive and co-ordinated utilisation of available institutional resources, such as, ITIs and polytechnics (including personnel and equipment) and non-plan funds, whether under Government or in the private sector.

(4) The Board is of the view that the amount of Rs. 10 'crores provided in the Central plan for the introduction of vocational courses at the higher secondary stage is extremely inadequate and recommends that it should be substantially increased."

Adoption of uniform pattern (10+2+3)

"The Board notes with satisfaction the progress made in adoption of uniform pattern (10+2+3) in the different states and recommends that steps should be taken to implement this programme in all states as soon as possible. Central assistance should be available for this programme."

The above resolution of the CABE in the thirty seventh meeting convened on November 4 and 5 1974 with a special purpose to consider the strategy of educational development in view of the extra ordinary situation created by the economic difficulties through which the country is passing and the consequent financial stringency which we face to day appears too short to meet the problem of vocationalisation in its real utilitarian spirit Setting up a council or a committee to work out a scheme is a usual traditionally inherited bureaucratic method of meeting an issue through fruitless arm chair mental exercises in an air conditioned meeting hall which devours considerable portion of the little left educational budget for educational development The second resolution on vocationalisation appears more philosophic than scientific or economic Simply taking into accounts the needs of skilled personnel as well as the existing programmes and facilities reflect non-committal attitude of the Board who further sophistically advocated considerable freedom (to whom ?) elasticity and experimentation (Where ? How ?) and wherever possible, non formal educational methods in the form of correspondence and evening courses (with what practical experience ?) The advocacy of the Board for particular emphasis to organising agricultural and allied vocational courses in the rural secondary schools is not in accordance with the typical village situation of India to day All students of rural secondary schools are not going to be farmers or agro workers and this is not possible also and when the agro allied vocations except dairy or cooperatives are conspicuous by their absence due to heavy urbanisation during the last twenty five years the recommendation to teach agro allied vocational courses in rural secondary schools is simply idealistic Thus the Board has failed to give sufficient and correct thought to the problem of vocationalisation of secondary education in our formal institutionalised educational set up although a passing mention of dysfunctional formal educational methods has been made in the body of the recommendation Recommendation No.3 reflects the institutionalised attitude of the Board while the fourth recommendation regarding meagre provision of Rs 10 crores for this purpose during the entire plan period not only reveals our traditional mentality of governmentalising educational development but also exposes the complex prevailing upon the Board that education of all kinds liberal or utilitarian academic or vocational is the sole monopoly of the Union and State Ministers and departments of education The conspicuous silence in these recommendations over the fact that on-the-job training is the number one best vocational education is really surprising The absence of mention about the consumers of the products

ever, progress in this direction is miserably slow because of paucity of State funds and the traditional procedure of governmentalising the programme, although it is obvious that the very idea of work experience is a socio-economic idea requiring not only education of public opinion in its favour, but the active participation and sympathy of the community in the programme. After all the ultimate goal of the programme of work-experience is inculcation of virtues among our school children like dignity of labour, values and attitudes which would help them in adopting a technological or vocational career i. e. inclination towards blue collar jobs, spirit of social and national service, self-reliance which is the very foundation of individual liberty, development of balanced personality, etc. The realisation of these goals is not possible by governmental efforts alone; it requires co-operative endeavours of community and the government. But the way in which attempts have been made to introduce work experience in schools through governmental circulars and assistance during the past nine years, especially from the third year of the Fourth Plan onwards has led us to severe criticism that governments have failed to introduce work experience in all schools, that suitable teachers are not available for the programme, that appropriate efforts to orient and train teachers towards this new programme have not been made by the government-sponsored Boards of teacher education and so on. Few teachers have shown faith in the utility of this new programme. No efforts have been made to make this programme to be accepted by the community as their own programme. Under these circumstances, work experience in schools has been reduced to a farce; in most of the primary and secondary schools it is simply conspicuous by its absence; wherever it has been introduced with governmental assistance it has not attracted the interest of the community partly because the programme taken by the school is not relevant to the society from utilitarian point of view with the result that some parents deplore this "wastage of time and human energies" and partly because of the lack of faith of the teachers in the programme itself with the result that it has been reduced to a sort of inevitable drudgery, as prescribed by the government, without any zeal or interest on the part of the pupils as well as teachers. Such an attitude on the part of teachers was mainly responsible for the failure of basic education programmes introduced in a number of primary schools since independence. No wonder if history repeats itself under the prevailing atmosphere. That such a basically useful programme does not get momentum due to bureaucratic method of its implementation is most deplorable. When a mild programme like work-experience in

schools cannot develop successfully, what to talk of vocationalisation of secondary education? It should be affirmed and universally accepted that education is a joint venture of the community and the government and that community has a great role to play in socialising this basically useful programme. Where government assistance falls short of introduction of this programme, community should come forward and take up the responsibility of introducing relevant and useful programme of work experience in their local schools. Once the community is convinced about the utility of the programme in developing important aspects of personalities of its growing children, it will generously and actively provide material facilities for the introduction of this useful programme.

The note on vocationalisation of secondary Education and adoption of the pattern of 10+2+3 prepared by the ministry of Education, and Social Welfare to be placed before the thirty-seventh meeting of the CABE has highlighted certain points which are not reflected in the resolutions of the CABE on these issues. The note stated : "The term 'Vocational Education' covers a wider concept than 'technical education.' The former would include both engineering subjects, with inter-changeability of credits at the school stage as well as at the higher levels. The polytechnics under the Directorate of Technical Education in the States and ITIs under the control of Labour Department have been conducting both engineering and non-engineering vocational courses. There are some vocational courses, such as, teacher-training, nursing, agriculture, dairying etc...under the control of 'the respective departments of Government.'

"Technical and vocational education is now given at three levels:

(1) Pre-vocational education training for the age group 12-16, corresponding to classes IX-XI of the secondary school system is given largely in trade schools, junior technical schools, technical high schools and pre-vocational training centres.

(2) Post-secondary vocational courses for the age-group 16-19 are conducted in ITIs, polytechnics, teacher training institutions, nursing schools, etc.

(3) University level courses are given in the universities, IIT and engineering colleges.

"Another area which the Ministry of Education is exploring is that of non-formal education. The Nehru Yuva Kendras are intended to train Youth in self-reliance and self-government. Non formal and

continuing education and training is relevant to all three levels mentioned above. The apprenticeship scheme enables school leavers as well as ITI's certificate holders to obtain practical training in selected industries.

"The potential clientele for non-formal education in the area of technical and vocational education might include the following :

(1) The students doing formal schooling, who feel the need for taking up a vocation and are prepared to attend part-time or evening classes.

(2) Employed workers, both in urban and rural areas, including small farmers, landless farmers, road construction workers and small entrepreneurs who need to update their knowledge and improve their skills.

(3) The educated unemployed; and

(4) Others who need to refresh their knowledge or acquire some additional information regarding recent advance in their field.

"It is to be stressed that the education system by itself does not create jobs. Its only duty is to ensure that there is no short-fall in educated and trained personnel required by Government, industry and trade. However, the more important responsibility of the education system is to train the minds and hands of citizens at large. The ability to learn has to be developed with a fast changing situation in a developing country like India. Technology becomes rapidly obsolete and hence the education system should concentrate on developing the ability of the citizens to learn the new technology as it develops rather than train them for the current technology. As technology changes rapidly, so also educational technology changes. We have to develop new methods of teaching and training continuously.

"It is realised that salaried jobs in the organised sector cannot be the only target for our young men and women. It is estimated that while the labour force is increasing annually by 3.5 million, jobs will be available only at the rate of 3 lakhs a year at the current rate of growth of economy of 3.5%. The self-employed sector offers considerable scope of employments. Post-Secondary education will increasingly stress this aspect and train young persons for self-employment.

"Among the important ingredients of the Fifth Plan strategy are :

(a) Appropriate diversification of courses in the polytechnics and ITIs, with due emphasis on non-engineering vocational courses related to emerging occupations in the area;

(2) Establishment of such new vocational courses in higher secondary schools as would meet the needs of the area;

(3) Introduction of vocational courses in higher secondary schools, with the help either of existing workshops and other equipments formerly supplied to multipurpose schools, junior technical schools etc. or by conducting such courses in close collaboration with nearby ITIs and polytechnics so that the equipment and staff are utilized to the best advantage.

(4) Utilisation of equipment machinery and workshops in public sector and private sector industrial undertakings for existing or new vocational schools established by industrial undertakings;

(5) Development of human qualities particularly self reliance, social service and discipline through special activities, such as, work experience national service, volunteers service etc.

(6) Improvements in methods of teaching and examination by schemes such as autonomous colleges, examination reform techniques, etc.

"It is expected that by the end of the Fifth plan about 40 lakhs students will appear for the matriculation examination annually. Assuming a pass percentage of 50% there will be 20 lakhs matriculates who will be either looking for employment or seeking admission in vocational courses or higher education courses. The total number of persons who can be absorbed every year in vocational courses according to the existing facilities are as follows :

1. Polytechnic Courses...	45,000
2. Industrial Training Institutions ..	100,000
3. Teacher Training for Primary teachers, Drawing teachers etc .. ,	75,000
4. Apprentice training scheme	10,000
5. Departmental Training Scheme	50,000
6. Private institutions...	50,000
totals...	330,000 - 3.30 lakhs

(In serial no. 5 above are included the following :

- (1) Gram Sevak training courses
- (2) Courses for para medical personnel
- (3) Courses for technicians for Agriculture, Animal Husbandry, Dairying, Horticulture, Forestry, Fishery, Police etc.)

(Serial no. 6 refers to private institutions training persons in typing and short hand.)

"Various Ministeries and departments at the Centre and in the States are providing funds for training of personnel required by them. On a rough estimate about Rs. 200 crores are likely to be available for vocational training of craftsmen. The major provisions are likely to be under the health plan for para-medical personnel, for training of craftsmen under the Ministry of Labour and Employment, for Agricultural technicians under the Ministries of Agriculture and also under the Ministries of Defence, Railway, Communications etc. In addition, funds will be made available to the Ministry of Education under the programme of diversification and strengthening of polytechnics. Thus so far as the 10+2 scheme of secondary and higher secondary education is concerned, the vocational courses to be organised by the State Education Departments exist at present or are contemplated by the other Ministries and Departments mentioned above.

"The nature of the courses to be organised will have to be determined in the light of districtwise surveys. Accordingly, a Central scheme has been included in the plan for the appointment of full time officers in charge of vocational education in some selected districts and for starting of new vocational courses to meet the employment demands of the districts concerned. Funds will be provided to selected educational institutions for starting of the courses.

"Originally we had asked for Rs 100 crores for the vocationalisation programme. Due to pruning of the draft-plan, the outlay has been reduced to Rs. 10 crores. Each school selected will only get Rs. 12,000 for accommodation and equipment. Though it is contemplated that only schools which have already sufficient accommodation and equipment such as the former multipurpose schools should be selected, still it is felt that the provision of Rs. 12000 per school will not be sufficient for starting new schools.

"In addition to this, several State Governments have provided in their State plans for vocational courses, either as part of the secondary education scheme or as part of the 2 year higher secondary scheme. Examples of the former type are the courses organised by the Maharashtra and Tamil Nadu Governments for high school students in collaboration with the local industries. The Tamil Nadu Government has sanctioned recently courses outside the school hours which a student can take up on a voluntary basis. Examples of the second type are those organised by the Karnataka and Kerala Governments. These are vocational courses started as part of the *10+2 scheme in the manner contemplated by the Education Commission.

"It has been estimated that in a week the workshops and laboratories in polytechnics and similar institutions are occupied only for about 75% of the time. Thus even during normal working hours about 2 hours per day can be made available to students of vocational courses in higher secondary schools. Further, if holidays and out-of-school hours can be used for vocational courses, laboratories and equipment can be used from 8-12 hours a day. An assessment will have to be made for each institution taking into account the nearness of the higher secondary school and staff availability. While the existing staff in polytechnics can be pressed into service by paying over-time, additional pay etc it may also be possible to use persons from industry, retired engineering personnel, etc for imparting vocational education and training to students from higher secondary schools.

"There is need for detailed academic and organisational planning for the introduction of vocational courses related to opportunities for employment and based on utilization of existing facilities under various Departments and in public and private sector industries. The State Governments will also initiate needed policies to include larger number of students to seek vocational rather than general education."

About adoption of the pattern of 10+2+3, the note of the Ministry of Education stated :

"It has been an agreed objective of educational policy that the common pattern of 10+2+3 should be adopted for school and college classes in all parts of the country. This was first recommended by the Calcutta University Commission (1917-1919). It was again recommended by the University Education Commission (1948-49) and by the Education Commission (1964-66). It has also been included as a major programme in the National policy on Education (1968), which says: "It will be advantageous to have a broadly uniform educational structure in all parts of the country. The ultimate objective should be to adopt the 10+2+3 pattern, the Higher Secondary stage of two years being located in schools, colleges or both according to local conditions."

"The following are the main advantages of the proposal:

(1) It will help to make the school stage really terminal especially through vocationalisation of secondary education;

(2) It will help improve standards in higher education because the average university entrant would be more mature and better qualified;

(3) A good deal of enrolment of the university stage at present (in P.U.C. or Intermediate stages) really belongs to the school stage. It is estimated that this enrolment will be about 12.58 lakhs in 1973-74, and 19.12 lakhs in 1978-79. The continuance of this enrolment at the university stage will increase the cost of higher education tremendously, especially when the proposed new scales for university and college teachers are given effect to. It also tends to magnify several problems of University education which arise mainly from the admissions of immature youths. It would be an advantage to all concerned, therefore, if this enrolment is transferred to the school stage to which it rightfully belongs.

(4) It will make our First degree more comparable with the First Degree abroad.

(5) Owing to the addition of the XIth Class to the school (which will bring in better teachers and better equipment), the standards of school education will also improve.

"Main Features of the Pattern

In the course of the discussion that have taken place about the adoption of this uniform pattern of school and college classes with the State Governments, in the Task Forces of planning Commission and in the CABE, the following general consensus has emerged on the main features of the pattern of to be adopted :

(1) The school stage should necessarily cover a period of 12 years and should preferably be divided into 10+2.

(2) At the undergraduate stage, we may have a pass course of two years and Honours courses of three years. This will have several advantages. In the first place, it will not mean an addition of one year for every student in those States where the first degree is now obtained in a period of 14 years. It will thus reduce the cost involved very substantially. Even in the States where the B. A. Degree is now obtained in a period of 15 years, this will make it possible for a large number of students to get their First Degree after 14 years and this will save considerable cost as well as time. Moreover, the introduction of the Honours courses for three years will make it possible to isolate the more competent and better motivated students from others and help in raising students, especially at the post-graduate stage.

(3) It should be open to all students who have taken the First degree in the pass courses to appear for First: degree in the Honours course at any time.

(4) Post-graduate course should cover a period of two years after the Honours Degree.

(5) The research degree should take three or more years after the Master's degree.

IMPLEMENTATION

There has been considerable discussion about proper implementation of this programme. In particular, it has been highlighted that account has to be taken of the following points if the best results are to be obtained from the adoption of this pattern.

(1) One fear expressed has been that in implementing the pattern, of which the main advice is to lengthen the duration of secondary education and to transfer one year from the university to the second stage, the 'exact opposite may happen, with a year getting transferred instead' from the school to the University stage. This is a genuine fear. But it can be guarded against. The fear arises from the circumstances that the stage of two years (i.e. +2 stage; after the initial stage of 10 years) could be located in schools, in colleges or in both. College teachers and university circles may be expected to exert pressure for this +2 stage to be located exclusively in colleges and made a part of the university system. However, while there could be no objection to the two year stage after Class X being located in any institution by whatever name called, whether 'intermediate' or 'Junior colleges' as in U.P. or Andhra Pradesh, and Kerala or 'Higher Secondary Schools' as now proposed in Jammu & Kashmir and implemented in Gujarat, one point can and should always be insisted upon: *These classes are a part of the school stage and will have to be treated as such.* It would be an antithesis of the entire pattern and disastrous to yield to any pressures to maintain these two years as a part of the university system and to make all conditions at this stage, including qualifications of teachers, their emoluments etc. comparable to those obtaining in the universities or degree colleges; the cost of the programme must then increase tremendously without any commensurate benefit. Such a change, in fact, would be counter-productive and self-defeating.

(2) Pressures from schools must equally be resisted with firmness. There is obviously no point in making every high school a higher secondary school. The high schools to be upgraded to the higher secondary stage should have to be carefully selected on the basis of resources, equipment and performance, and, as the Education Commission pointed out, the needs of the situation would be met if only one out of four or five secondary schools was upgraded.

(3) The need to diversify the higher secondary stage, which is one of the major objectives of adopting the new pattern must be stressed. This objective will not be fulfilled if all the higher secondary schools merely become university preparatory. Side by side, steps will have to be taken to develop terminal vocational programmes at this stage. These would be of various durations from six months to three years. Some of these could be located in general secondary schools, some in special secondary schools, some in close association with or in industry and some even as a combination of one or more of these patterns. The main point is to develop a concurrent programme of vocationalisation as well.

(4) So far the States of Andhra Pradesh, Gujarat, Karnataka, Kerala, Maharashtra, and West Bengal have adopted the new pattern and introduced the new syllabii associated with it. The State of Jammu & Kashmir has also initiated the programme. The Union Territory of Delhi has decided to adopt the new syllabus from the next academic session. The Central Board of Secondary Education have approved the new syllabus for the Central Board Schools. Other States and Union Territories are actively considering the change over. This should be speeded up.

(5) It is hoped that the remaining States would also speed up the needed action so that the recommendation of the Education Commission and the National Policy on Education adopted by Parliament in 1968 in this regard may be effectively implemented by the end of the Fifth Five Year Plan and the various educational objectives connected therewith may be achieved. One of the reasons for the slow progress in the rest of the States (which calls for the introduction of the new syllabus in the next academic session) is stated to be "lack of funds." It is seen on the other hand that non-introduction of the new pattern will eventually prove costlier. Most States can introduce the new pattern within the allocation available with considerable benefit to the educational system. The funds provided for vocationalisation and for 10+2+3 must be viewed together as the new pattern is intended to assist in the process of vocationalisation of higher secondary education."

The note prepared by the Ministry of Education and Social Welfare for the consideration of the CADE in its thirty-seventh meeting stated as under:-

Making Education More Relevant to the Needs of Society

"A major effort is to be made in restructuring the present courses in the universities and colleges with a view to make them more rele-

vant to the development needs of society improving employability of students and enabling them to acquire greater experience of practical work. The task of restructuring the courses has been entrusted to a number of expert committees. A special committee has drawn a programme for reorienting the courses towards rural problems. However any demarcation of institutions into rural and urban colleges is not considered desirable as it might accentuate the existing disparities among rural and city colleges. What is necessary is to update the knowledge of teachers in the rural colleges and to orient them to the need of relating the courses to the community around them. For the purpose there could be a core of courses which would be common to all students working for their first degree and a certain quantum of the curriculum which would be optional and would be related to the needs of the community both in the rural and urban areas. Thus students studying for the ordinary courses and those studying for special courses would belong to the same institution. No attempt would be made to repeat the earlier mistake of setting up separate rural institutes which did not find favour with the rural community. Colleges located in the rural areas as well as in cities would be selected for these programmes. It is proposed also to provide diploma and non-diploma courses and extension programmes in these institutions. Some of the programmes and courses could be worked in collaboration with rural polytechnics, ITIs, agricultural colleges etc.

Special Diploma Courses For Improving Employability

Special Diploma courses for improving employability of the students have been started in a number of universities such as Gujarat, Andhra, Jammu etc. The modern university is experimenting with special undergraduate courses which provide special training to the students for specific jobs such as accounting, tourism etc. It has yet to be decided whether such narrow specialisation at the undergraduate level would enable students to have as wide a choice in their career as is desirable. However it is generally agreed that in working out such courses students should be enabled to have a variety of options before them in order to be able to cope up with changing opportunities of employment. The specific need of the local community and the involvement of the community in the formulation of the courses is also important. Efforts have been made in a number of universities to induce the communities to support these courses in a variety of ways e.g. training opportunities, financial help etc. A general view will be taken in the light of experience gained in these various projects and courses.

Practical Experience of Work

"In order to provide to students practical experience of work in production enterprises, production units have been established in a number of universities, such as, Roorekee, Banaras Hindu university, Institute of Science, Bangalore. On the basis of experince gained, it is proposed to start similar units in ten more universities. Similar programmes are being initiated in a number of colleges both at the undergraduate and graduate levels. The task of linking education with production needs a careful survey of the nature of industrial infrastructure, type of medium and small scale industries in a region, employment prospects, etc. For the purpose selected colleges are being provided with funds to conduct a detailed survey of one or more districts in their neighbourhood.

Adoption of 10+2+3

"Revision and updating syllabii is a continuous process. However, an intensive effort will be made during the next two to three years to review the existing syllabii and revise them with a view to meeting national needs and academic development. This would coincide broadly with the switch over to the 10+2+3 pattern at the national level. In restructuring the courses efforts will be made to rectify one of the major deficiencies of the course structure in higher education, viz, its aloofness from problems of contemporary relevance, such as, problems of urbanisation and modernisation of a traditional society such as ours, insufficient participation of young people in the efforts at social regeneration, problems of poverty, colonialism, peace and development, etc. In the creation of this awareness, youth movements and the National Service Scheme should be made to play a definite role."

Continuous Assessment

Semester System

"The introduction of the semester system would be limited with the new pattern of courses and syllabi and the new system of examinations. It also needs a more staff-students ratio, where these have been answered, as in the ITIS, Agriculturel colleges etc. This semester system has given greater flexibility to the system, improved student motivations and helped to raise standards. The switch over to semester system in the universities and colleges will have to be carefully regulated after, the preconditions for its success have been ensured.

Disparities among colleges

"It is recognised that in order to make an impact on the system of higher education in the country, it is necessary to improve collegiate education since 89% of the students are enrolled in the colleges. It is proposed that the district be chosen as the unit for planning improvement in collegiate education. While there are on an average 11 colleges in every district in the country, there are in fact, sharp regional imbalances-some districts have as many as more than 20 colleges, while about 50 districts in the country have one college or none. In the colleges themselves there is great disparity, 50% of the colleges have an enrolment of less than 500 students, about 220 colleges or about 8% have an enrolment of 2000 or above. All these factors have to be taken into account while making a plan for the development of colleges. The pattern of post-graduate development in colleges also varies considerably between different regions. In the Eastern States of Assam, West Bengal, Bihar and Orissa and the two southern states of Andhra Pradesh and Mysore, post-graduate education is generally imparted by University or in post-graduate centres run by the universities. In other States, there are large number of post-graduate colleges in Arts, Science and Commerce."

"Small colleges with an enrolment of less than 500 which are often located in rural areas would be covered under the special programme for orientation towards rural problems, as spelt out above or they could be converted into rural polytechnics.

Autonomous Colleges

"In restructuring the system of education and syllabi an important role would be played by autonomous colleges. It is visualised that colleges with a student strength of 2000 and faculty of 100 would in the first instance, be given the status of autonomous colleges.

Detailed guidelines for the granting of autonomous status to colleges, the role of the university in relation to the autonomous colleges, the functioning of autonomous colleges, etc. have already been issued. A number of regional workshops regarding autonomous colleges and examination reforms have been organised by the Commission. In all of these, the concept of autonomous colleges have been welcomed by the academic community. These autonomous colleges would be able to provide facilities for post-graduate education of a higher order in many district centres including many of those where there has been a clamour for establishing separate universities."

Life-long Education

"Programmes of adult education linked to the concept of life-long education have to be developed in a planned manner, in order to provide programmes of inservice training, refresher courses and vocational retraining throughout the working life. The universities and technological institutes can play a positive role in this, subject to availability of funds for the purpose."

National Service Scheme

"The Commission recognises the importance of the National Service Scheme and is of the opinion that ultimately it should be made compulsory for all students.

Regulation of Expansion of Higher Education

"The Scheme of restructuring higher education and of re-orienting syllabi and courses towards the needs and problems of the community can hardly succeed if the present unplanned expansion of higher education is not regulated. Before new universities and colleges are established, States would conduct an educational survey to satisfy the Commission that it cannot cater to the higher educational needs of the people of the area in other ways and that the new universities will correct regional imbalances or introduce new innovative courses aimed at materially helping the developmental efforts of the region.

Non-Formal Education

"The Commission lays emphasis on strengthening and improving facilities for correspondence, part-time and non-formal education so that roughly 50% of the new entrants can be diverted from formal education and institutions. The commission is attempting to improve the course structure of the correspondence courses, orienting them more towards the needs of the community, particularly the socially deprived

sections which for one reason or another cannot be given a place in a university or college.

Open University

"The Commission has clearly proposed to the Government the establishment of a National Open University which can undertake with the help of latest educational techniques the preparation and introduction of courses geared to the needs of the backward sections and communities, house-wives, migratory population, people living at remote areas and the people already in employment."

As the University Grants Commission put it "Judged by the long-term perspective, the problem of the educated job-seekers cannot be solved by operating only on the demand side. Even in the case of the skilled categories, the intake of training institutes has had to be cut back to ease the problem. In the case of generalists, this has to be done much more drastically to reduce the problem to manageable proportions. University Education must be so regulated as to conform increasingly to the likely quantum and pattern of employment opportunities for the educated youths. This will require not merely a restructuring of university education but also greater diversification and vocationalization of secondary education to reduce the pressure for entry into institutions of higher learning. Further more, no regulatory measure can be justified which denies equality of educational opportunity. For, promoting vertical mobility, education can be a very powerful instrument. The ineffectiveness of the present education system in this regard, calls for important innovations and hard decisions."

In the note on "Work-Experience," the Ministry of Education and Social Welfare stated as under :

The Need For Work-Experience

"Children who enter schools in the year 1975, will direct the economy, society, and the country in the 21st century. The highly developed human society of the 21st century in which our children will live and the modern technological development will require highly educated people. Our schools have to aim at educating these people who will carry out the technical revolution under the socialistic conditions existing in our country, and will be able to adjust themselves in the technology-dependent society of the 21st Century. Therefore, right from the beginning, our schools should teach them that man can change nature and society by a judicious use of technology."

"Under the existing education system there is a wide gulf between the world of school and the world of work. The schools of to-day are producing literate students. But these children are unable to use their hands effectively. Moreover, if the opinion of parents, teachers, students and industrialists is taken, it will be revealed that most of the knowledge given to students in schools is of little use to them in their daily life and even during future employment. On the other hand, we find that there are people, who have not gone through formal education but who can use hands very effectively and are successful in the world of work. They work as artisans and mechanics. This gulf between the worlds of school and work needs to be bridged. How this has to be done has been indicated by the Education Commission (1964-66) i.e., integrate the work with education and education with the world of work and obtain a sort of product mix. This can only be done through work-experience programme. What we want to produce through work-experience programmes are either people who can use the experiences for improving their living conditions or are ready to learn a vocation. We do not want to produce fully trained students. Producing fully trained students is the job of vocational courses. Processes and skills are changing, because the world of work is changing. Therefore, we want to give our children the habit of using their sense organs—eyes, ears, hands etc. effectively in the changing world of work. To meet the challenge of the future, our children must be exposed to modern technology right from the beginning. The laws of science must be revealed to them at an early age. They must apply these laws and practise using them so that these have become their second nature. All this should be done through *Work-experience* in the school curriculum.

Concept

"Work-experience is providing *Exploratory Experiences* in a wide variety of areas of work in the world of work. These exploratory experience should be provided in the school, the home or the community including factories, workshops, farms etc. As such work-experience must form an integral part of general education from classes I to X, in order that these experiences may lead to some socially useful productive work and also have forward look. They must be provided through the triple processes :

1. Production processes,
2. Maintenance processes,
3. Technological processes,

"In some programmes of work experiences any one of these processes may have a major role the other two may have a minor role, but it is necessary that all these processes be present in a work experience programme. It must be ensured that free students' labour is not extracted under these programmes and that the students are given a choice to select the areas of work in which they would like to gain some experience.

Implementation

"The world of work in which exploratory experiences have to be provided to students may be divided into five work divisions, namely, agriculture, technology, domestic science commerce and neighbourhood occupations/crafts and each work division may have a number of areas of work in which experiences can be given keeping in view the local conditions. In order to ensure that the students may gain experiences in a wide variety of areas of work it is suggested that the academic year be divided into three parts (i.e. trimesters). The students should select any three work divisions for gaining experience under the work experience programmes in any class and from each of the work divisions selected select one area of work for that particular year. Thus each student will gain experience in three areas of work under these different work divisions each year. In subsequent years this process of selection of work areas should be repeated, so that each year, the student will gain experience in three new work areas under three different work divisions.

"For the benefit of those students who would like to specialise in any particular work division a graded syllabus in each work area under each work division be prepared in three parts. The first part would consist of only elementary experiences in that area. The second part of the syllabus would contain some skills and a little more experience in that area and the third part would consist of experiences and skills required by a person to be ready to take up a job or start a business in that area. Thus if any student selects to undergo experiences in all the three parts of the syllabus in any particular area it would amount to his achieving some amount of perfection and developing employable skills in that area. The student would be able to achieve this in a minimum period of three years. This would amount to providing vocationalised training under this programme.

Training of Teachers

"Since the schools will not have sufficient funds to create conditions of giving all kinds of experiences and also it will not be

and decentralization of industries by evolving intermediate technology. Such Institutes or Vidyapiths can provide needed teachers of agriculture, rural composite crafts, rural engineering and rural industrialization through intermediate technology.

The Ministry has not specified what it means by vocational courses allied to agriculture. If it pertains to dairy and poultry, it may be said that under traditional agricultural set up dairy in the form of possessing milch cows and buffalos is already a part of an agriculturist's vocation while public opinion in most of the villages, mainly populated by the Hindus would not be in favour of poultry. If the proposition relates to handicrafts or spinning and weaving or other trades like wood-work, clay modelling, bamboo work, smithy etc., these activities will not attract the pupils for choosing a vocational career in view of limited scope for taking up such courses in industrial or commercial career. At most, such courses may be hobby-activities or may fall in the list of programme of work experience which does not claim to prepare students for vocational career. If the proposition visualises rural industrialisation as a pre-condition to vocationalisation of education in rural secondary schools, it would be a substantial and a very useful and timely proposition demanding decentralisation of industries as well as the required process of de-urbanisation. But looking to the history of location of industrial estates in the post-independence India, one would be led to believe that this sort of decentralisation of industries does not seem to have been contemplated in the proposition. Vocationalisation of education in rural secondary schools, thus, has a very limited scope, except in a few post-basic schools which run on Gandhian educational ideology. If we are really sincere to vocationalise education at various stages, we must emphasise setting up rural agro-industrial estates within our planned economy on a very high priority basis; otherwise, the same bookish dysfunctional educational programmes leading to public examination, uniform and common both for rural and urban areas, will go on for want of an attractive alternative educational programmes.

The Ministry's advocacy for non-formal education to cater to various types of clientele is welcome. This is at present conspicuous by its absence except a few occasional non-formal refresher programmes run by certain departments of governments. Non-formal education requires a carefully planned and dynamic net-work from bottom to top. It requires a wide use of mass-media and pin-pointed literature in the form of talking points. It also requires great use of audio-visual aids and if and where possible, great use of cybernetics. From the model

of land grant colleges of U S A and Folk high schools of Denmark India shall have to plan her own model suitable to the needs and condition of her rural and urban areas. A major portion of the clientele of non formal education will be adults & youths most of whom would be illiterate also for such persons the programme will have to be planned in a different way Similarly, non formal vocational education to educated unemployed will have to be on a distinct base It is not understood how Nehru Yuva Kendras would fulfill the responsibility

The Ministry is perfectly right in stressing the point that the education system should concentrate on developing the ability of the citizens to learn the new technology Educational technology must change along with the technological changes This poses the need for introspection in every institution imparting general as well as technical or vocational education Their rigid traditional methods of training and material resources shall have to be reviewed by them with a view to meeting this greatest of all great challenges of the day Institution alised education has now to stress development of adaptability in the educand in the thin mystery over prevailing techniques This requires that the entire educational programme shall have to be learning oriented This requires radical attitudinal and technical change in our present teachers who are accustomed to teaching demonstrating and lecturing on the basis of their personal notes prepared long back This is a very hard nut to crack Unlearning the static mastered methods and learning new methods of learning oriented education and training requires great mental effort patience and consciousness on the part of teachers The pre condition of remaining in or entering a teaching profession is that one must be wedded to life long learning in order to keep oneself up to date In a world where total human knowledge doubles every decade and scientific and technological knowledge and innovations develop even at a faster rate, a teacher who does not continuously endeavour to keep himself abreast of the latest developments in his subject will be thrown out of the field as outmoded staff and no unionist activity, however powerful it may be, will be successful in restoring him Earlier our teaching community realises this, better will it be in their own interest This is equally true for headmasters, supervisors, including inspectors as well as educational administrative personnel and teacher educators If no teacher who is not wedded to life long learning has a right to teach, no supervisor, be he a headmaster, inspector or teacher educator, who has not individualised life long learning has any right to supervise the work of the teachers None in the hell of education should and can connive at this hard truth and the demand of the day

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fields and will ultimately reduce the administrative cost of these sectors. Various sectors of our national economy should also be geared into this national programme. General composite rural craftsman and educational courses would be more welcome and beneficial than single unilateral approach to manpower training.

In view of the neglected fields of career courses, the prospective capacity of 330,000 seems to be quite limited. If the need of the important sectors like commerce and agriculture for self employment as well as employment are taken into account, these figures are bound to increase to not less than double the number stated in the paper. Districtwise tables suggested in the note if conducted soon will can give correct data regarding manpower needs in various sectors, the number of employable trained youths etc.

The entire note on vocationalisation appears to have been based on the concept that vocational education is an absolutely exclusive term. This notion is not correct. Present educational thinking recognises no demarcation between general and vocational education and stresses that both are interconnected so as to provide balanced and well informed citizenship to the nation. Under the present thinking no general education can now be imagined without vocational education and no vocational education can now be imagined without general education. This should be borne in mind by all concerned with education general or vocational. We should never forget that any educational activity pursued for securing gainful occupation is for all intents and purposes, vocational education.

Mention about the important ingredients of the Fifth Plan strategy and the total number of persons who can be absorbed every year in vocational courses reveals traditional institutionalised approach of the Ministry, incorporates departmental training courses which are restricted to governmental sector only and ignores vast network of voluntary agencies running various career courses. It is also surprising that the vast commercial sector is represented in the note of the Ministry by the mention of typing and short-hand. Our Commercial sector is in a bad need of intermediate supervisory skill in banking, accountancy, salesmanship, cost-assistantship, secretarial assistantship, liaison workers, insurance workers, etc. Courses run by private agencies are costly and are not commensurate with the demand with the result that our national commercial efficiency suffers because of the highly skilled managerial persons having to do the jobs which they are not supposed to do and paucity of such persons. Similarly, the vast field of agriculture is not sufficiently reflected in the numbers given in the note. This field provides greatest opportunity for self-employment and increasing our agricultural produce by skilled agriculturists. Marine agriculture which is vital to India having vast coastal line is represented by fishery only in the departmental sector. This seems to be the result of the traditional idea of singlepipe polytechnic in the mind of those who prepared the paper. In the modern context, comprehensive concept of a polytechnic has a great role to play in non-engineering as well as engineering sector.

The note of the Ministry states that various Ministries and Departments at the Centre and the States are providing funds for training of personnel required by them and that on a rough estimate about Rs 200 crores are likely to be available for vocational training of craftsmen. The most surprising aspect of this statement is that the same tradition is desired to continue. This is against the functional concept of vocationalisation. Such a rigid departmental approach runs counter to the modern educational thesis of interchangeability and adaptability in the educational programmes. Vocational training is, of course, an interdepartmental programme to be co-ordinated by Education department through creation of a special agency. The funds of all the departments at present spent after education in the form of pre-vocational or inservice training programmes should be pooled together and a comprehensive and realistic programme of vocationalisation should be evolved with a view to providing well trained personnel to all sectors of public activity, including national economy. The product of such a programme will increase the efficiency of all

to university education has been in the minds of educationists since long Calcutta University Commission (Popularly known as Sidler Commission) advocated 12 years' education prior to entry to the Degree course as far back as in 1919 i.e., fifty seven years ago. Hence the fear that in implementing the pattern of which the main advice is to lengthen the duration of secondary education and to transfer one year from the university to the school stage the exact opposite may happen with a year getting transferred instead from a school to the university stage is baseless. Even if it is found genuine, it should be guarded against by correcting the statement of the Education Commission 'The higher secondary stage of two years would be located in schools in colleges or in both' by a clear declaration of unambiguous statement "This stage of two years will be located in schools only." In fact, the very purpose of this stage, evoked by carving out one year each from high school and university or by carving out two years of university or by adding one year to the total span leading to the first Degree, will be defeated if it is even partially located in colleges whose teachers are not professionally trained to teach sixteen agers and are simply performing their duties of one sided lectures from the points jotted in their notes years back and are accustomed to play the same record every year like our traditional primary class teachers fifty years back passing their whole career as the class teachers of the same particular classes. It is therefore not at all desirable to locate higher secondary classes in colleges which may be materially better equipped than our secondary schools which also will grow to the requirements of the stage gradually. This may invite a charge of inefficiency of education imparted at this stage in high schools but even at this cost also we must firmly determine to locate higher secondary schools in high schools. This will have a healthy impact on the academic standards of lower secondary classes. We should never forget that education is a process of growth. Our secondary schools were not 20 years ago what they are to-day. They have continued growing and there is no doubt that they will also grow into efficient higher secondary schools within a span of four-five years. Therefore we no compromise on this stand. The fear that college teachers and university circles may be expected to exert pressure for this + 2 stage to be located exclusively in colleges and make a part of the university system is correct. Wherever this stage has been introduced this sort of pressure tactics has played obnoxious role and has taken a form of agitation also. College teachers would oppose location of higher secondary stage in secondary schools on account of their

this will save considerable cost as well as time." It is not understood how a pass First Degree will be claimed to have standards in higher education and how it will make this degree comparable with the First Degree abroad, in the face of the hard fact that even the First Degree obtained after 15 years is not treated as equivalent to the First Degree obtained generally after 16 years in advanced countries like U.S.A. A B.A. degree of Gujarat University earned after fifteen years of study is not accepted as equivalent to B.A. in the States. In fact, the position will be worse, if the B.A. after 14 years of study seeks further education in advanced countries. This mischievous formula of Pass and Honours Degrees of two years', and three years' duration respectively seems to have been evolved from the Governmental inability to persuade and prepare big States like U.P. to raise their first degree course from two years to three years. Education is a State Subject. It does not appear even on the list of concurrent subjects. (It is gratifying to note that now the Central Government has seen the need for concurrency.) In this situation the Ministry could have rather remained silent on this point than to have placed a misguiding statement before the CABE with a view to making the new pattern acceptable to the unwilling States. The plea that the proposal of two years of First degree course will save considerable cost as well as time reflects an attitude of had economy at the cost of educational efficiency and the future of our youths. This also runs counter to the proclamation of National policy on Education. One would also read between lines that the Central Govt. wants to shirk from their duty to provide supplementary assistance to the States in materialising the new pattern which would require huge funds beyond the capacities of the States in the initial stage, although in the long run the pattern will considerably reduce public expenditure on education because of a large programme of diversification and vocationalisation at the + 2 stage as well as the higher stage. Instead of placing this new brainwave of Pass and Honours Degree courses of two and three years' duration respectively, the Ministry would have done better if it had categorically stated that the development of the new pattern is the responsibility of the States which should find funds for the same from their own resources or by raising more financial resources by way of imposing vocational education cess.

The first two stages of education : Ten years, general uniform education and two years' higher secondary education have been considered belonging to the school stage through various deliberations in various conferences of educationists, Education Ministers and secretaries and vice-chancellors. The Education Commission (1964-66) also corroborated this thesis. Twelve years of school education prior

for updating their professional efficiency to the extent of giving full justice to upgraded courses of higher secondary schools Governments and universities should join hands in training teachers

The need to diversify the higher secondary stage and to train teachers for academic and vocational courses must be stressed. This is the very crux of the problem. We do not require diversification of this stage for the sake of diversification. It will be aimless, unreal and dysfunctional. The process of diversification will have to be directly related to the manpower needs in various sectors of economy and administration. A careful and comprehensive regional survey of manpower needs and potential is the very pre-condition of diversification. This has been discussed in details in the remarks on the Ministry's note on vocationalisation of education. Training of teachers with a view to updating them as per the requirements of the syllabus for this stage will have to be taken up in a big way. Teachers selected to teach higher secondary classes will have to put in hard efforts to upgrade their knowledge lest they should not do any injustice to the job assigned to them. This poses a big challenge to our secondary school teachers who must strive very hard to rise to the occasion. Training classes conducted with the assistance of university professors and lecturers will be only initiating processes; this will require real follow-up by the teachers through constant study of reference books on their subjects and joining part time or evening courses to improve their academic qualifications. States should also organise correspondence courses in a big way to prepare teachers on jobs for the new duties to be performed by them and should hold content examinations at the end of every term. Thus, teacher-training programmes will have to be taken up in a very big way. We now cannot afford to forget that job-security and job satisfaction must needs go hand in hand together.

It is most surprising that no mention has been made in the note of the Ministry about educational and vocational guidance as a preparatory measure for the implementation of higher secondary stage. In fact, the concept of vocationalisation of education as thought of to-day by the educational thinkers and planners of India requires educational and vocational guidance at all stages of education. There are pre-S S C. vocational courses also run by I T Is and other voluntary as well as private agencies. The targets proposed by the Education Commission (1964-66) regarding diversification of higher secondary stage are that by 1986 fifty percent of the students seeking education after standard X should be diverted to vocational career courses. The higher secondary

narrow interest of stability of service and would like to get this stage located in the colleges in the form of 'Juniors Colleges' or 'intermediate colleges' as were started pursuant upon the recommendation of Sadler Commission in the erstwhile United Provinces from 1923 onwards. Universities, too, would encourage college teachers' agitation simply on account of probable loss of fees for PUC Examinations. Such unionist agitation of college teachers should, on no account, be taken note of. It must be affirmed on a nationwide scale that the only vested interest that can be recognised in the field of education is the interest of the students only and that teachers of all stages exist in the profession because students exist in schools and colleges. Because of the location of higher secondary stage in schools there will be no retrenchment of college teachers but about one third of them will have to accept downward mobility which should be inescapable. Efforts to cause this stage called 'Junior college' or 'Intermediate college' should be strongly curbed and foiled. The stage must be called the higher secondary stage. Even in States where junior college concept has been put in practice, rehabilitation of this stage in secondary schools should be stressed.

The ministry has rightly noted that pressures from schools, as it happened in Jammu and Kashmir, must equally be resisted. It is clear that in view of the objectives of this +2 stage, every secondary school cannot aspire to be a higher secondary school. Education commission has rightly stated that the needs of the situation would be met if only one out of four or five secondary schools was upgraded. Thus, about twenty to twenty five per cent of the existing secondary schools will have to be upgraded as higher secondary schools. This proposition will create agitation among teachers in the States where the school stage covers eleven years at present; because eleventh standard will be closed in 75 to 80 per cent of the secondary schools, rendering some surplus teachers who will have to accept horizontal mobility in the interest of the students. State Governments can settle this issue by persuading managements of higher secondary schools to absorb the teachers, by treating those who will remain unabsorbed as supernumerary teachers till they are absorbed in the normal expansion or by other higher secondary schools when they open twelfth standard in the second year of the implementation. The problem of surplus teachers in secondary schools in States having eleven years' schooling will be a temporary problem for a year or two. Teachers must accept this position in the interest of their own students. They should undergo arduous continuous training and should be wedded to life-long learning process.

the country is facing economic stringency and when the rate of growth of national economy is to be upgraded Under the constitution education is a state subject although the Central government exercise some control over it through Planning Commission and bodies like N C E R T Asian Institute of Educational Planning and Administration Regional Colleges U G C Centres for Advanced studies All India Medical Council All India Council of Technical Education All India body of Chartered Accountants Company Secretaries Architects etc Central Government also assists certain schemes of the States, of course, subject to the availability of funds The result of this situation is that educational development mainly depends on the availability of State Funds in normal and plan budgets This further results in uncertainty of unchecked realisation of targets of educational development As stated earlier the axe of national economy falls most heavily on education Education is one of the greatest industries in the nation third in number after Agriculture and Defence In the public sector it is second to Defence only Still defence is exempt from the axe of national economy One should not forget that defence is for guarding against external dangers while education which besides educating popular citizenship is the only potential force for internal civic defence on which depends the solidarity and socio economic and political progress of the nation It is the spirit of national solidarity and national consciousness among people which in fact, keeps the nation safe from any external danger Education thus deserves priority over even defence This dimension of educational potential necessitates that education should be placed on concurrent list and that any measure of national economy should not affect the march of educational development The declaration of National Policy on Education also requires education to be concurrent subject so as to ensure uniform pattern of general education at the first level education The programme of vocationalisation shall have to cater to not only the regional manpower needs but also to the national manpower needs Uniform standards of undergraduate and post graduate education which are sought to be brought in by University Grants Commission also requires concurrency of education A serious thought requires to be given to these issues by the State Governments as well as national educational thinkers and planners If we are really anxious to restructure our educational system to purge it of its dysfunctional nature in the national context to develop it to be really functional so as to evolve an efficient well informed and actively participating citizenship in context with our socio economic and political development needs in short we the

stage, thus, will be the very backbone of the total educational system in the sense that it will provide to the nation needed intermediary supervisory skills in the sectors of our public, social and economic activities. It is therefore, inevitable that a huge school to school and stage to stage programme of educational and vocational guidance must be taken up on a State-wide scale in every stage prior to the implementation of the higher secondary stage which will produce personnel of employable skills. This badly requires that a strong, well-equipped and adequately staffed educational and vocational guidance wing must form an integral part of the Directorate of Higher Secondary Education or the Board of Higher Secondary Education.

It has been pointed out earlier that vocationalisation is the inter-departmental and inter-sectorial activity. This is more true for higher secondary stage also which aims at manifold diversification of education at this stage with a view to ensuring needed blue-collar and supervisory manpower to the nation. Higher Secondary stage, therefore, should be considered an interdepartmental and inter-sectorial project having area of collaboration with various Directorates, e.g. agriculture, health, social welfare, police, panchayat and community development, industry, finance, education, general administration, etc. This necessitates a full-fledged and inadequate staffed Directorate of Higher Secondary Education as the very first condition of the implementation of higher secondary stage. Neither the Directorate of Education nor the Directorate of Technical Education will prove competent to do justice to this huge specialised task. It is really surprising how the Ministry of Education and Social Welfare could miss this very important administrative point. Along with the educational and vocational guidance wing, a research unit and the unit of manpower, employment and training also should necessarily be attached to the Directorate of Higher Secondary Education. With a view to building up interchange of ideas and ensuring adequate provision of placements of trainees for practical experiences, all sectors of economy will have to be taken into full confidence. It should be remembered that without taking these sectors into confidence, the purpose of higher secondary stage will be defeated. It is, therefore, necessary that a high status State Advisory Council of the Higher Secondary Education consisting of representatives of various concerned sectors should be set up in each State. The note of the Ministry has not given due thought to this aspect of this stage.

The ministry's suggestion to develop a concurrent programme of vocationalisation should be considered welcome at this juncture when

regeneration, problems of poverty, colonialism peace and development etc, the measures suggested by them in the form of youth movements and national service scheme will prove too incapable to eradicate such major deficiencies

At a time when our university education simply contributes towards aggravating the problems of educated unemployment and youth unrest which emanates from disappointment forced inertia and frustration due to their consciousness that they are burden to their parents and society it is not understood how the Commission hopes to purge our university education of its major deficiency through young movements which if attempted, will take a surprisingly negative direction The note does not reflect the required boldness to revolutionise our higher education and transforming the same from high verbalism to socially, economically and politically useful activism If we cannot revolutionise our college and university education it will be better for the nation to save crores of rupees of the public revenue and parents by simply closing those erstwhile British University models with all the colleges affiliated with them The matriculates will lose nothing by this closure, they will rather be benefitted by saving themselves from white collar mentality and from all the vices which we see today in our so-called collegians, and by joining some productive activity for the growth of our national prosperity Money saved by this closure will be better utilised for making twelve year schooling really purposeful and functional and by creating library and laboratory facilities for real talents to grow through self-efforts and self-study which is the best study If these institutions of higher education are to survive, they must offer polyvalent blended general and vocational education of multi-entry multi exit nature in context of national needs and individual aspirations and aptitudes

The note for changing the present system of evaluation drastically comes simply as a lip-solace measure to curb the evils of public examinations, but our experience of the internal marking scheme which is reflected on the mark sheets issued by universities does not generate any hope for improvement High standard of objectivity and professional honesty and impartiality should be ensured prior to reforming the evaluation procedure and setting up autonomous colleges New evaluative innovation requires application in right earnest of the new learning-oriented class room techniques

Similarly, the statement 'Small colleges with an enrolment of less than 500 which are located in rural areas would be covered under the special programme for orientation towards rural problems or they could be converted into rural polytechnics' does not seem substantial

so far as the special programme of orientation towards rural problem is concerned. The second alternative of converting such colleges into rural polytechnics is a welcome proposition. This process will make these institutions really useful to rural society and will ensure an atmosphere of attitudinal change over from white collar inclination to blue collar bent of mind from vain verbalism to functional activism. The note assumes importance and worthwhileness by this very useful proposition of converting colleges situated in rural areas into rural polytechnics.

The establishment of production enterprises and production units is really required in such converted polytechnics rather than universities.

The commission's plan to regulate the present unplanned expansion of higher education is also worth accepting. During the last twenty five years expansion of higher education has been tremendous and quite unnecessary. Such an unplanned expansion has created uneconomic units of higher education and has laid a great strain on the Govt funds available for grant in-aid. This situation should be seriously taken into account and such growth should be arrested at the earliest. State Governments should take up this challenge with the firm determination not to yield to any pressures.

The proposition for strengthening and improving facilities for correspondence part time and non formal education with a view to diverting 50 percent of the new entrants from formal education and institutions is useful in as much as it will lessen the blind rush towards college education but it will not be useful in changing the dysfunctional nature of higher education unless the commission's attempt to improve the course structure of the correspondence courses orienting them towards the needs of the community particularly the socially deprived sections becomes substantially successful. Again it should be remembered that vocationalization must be linked up with the growth of national economy and that fixing up the goal of 50 percent so this is rather too hasty and sounds like day dreaming.

The idea of open university which can undertake with the help of the latest educational techniques the preparation and introduction of courses geared to the needs of the backward sections and communities home wives migratory population people living in remote areas and the people already in employment is the most welcome idea. Care should be taken to devise really useful courses based on regional surveys of the social economic and psychological needs of the clientele of the open university.

The note is surprisingly silent on the teaching staff available in colleges. The generation of learned and ever learning professors and

teachers maintaining their own library for maintaining themselves upto date, over and above reference books available in the college libraries, is no more existing now. With the explosive expansion of colleges, youths fresh from universities have continuously been recruited during the last fifteen years with the result that the teaching staff in our colleges have failed to attract audience of the classes they teach. They cannot control the students. These lecturers are no less responsible for the growing indiscipline and malpractices in examinations in the field of higher education. The recent development of the tactics of trade unionism among our young lecturers who apply all sorts of practices, such as agitations, dharnas, morthas, gheraos etc for gratifying their own interest without putting in hard labour for self study to keep them abreast with the latest developments in their subjects is really a matter of grave concern. Students become prey to such tactics and go without sound education ultimately resorting to malpractices to get through the examinations under the very nose of the teachers. This is the most serious situation. It is surprising how this hard fact could escape the notice of the University Grants Commission.

Another equally serious problem in the field of higher education is psychological. The teachers are indifferent to whether the students learn or not. The transition of a student from the school stage to the college poses real psychological problem. The student in a high school level has so far studied in a class of 10 to 50 students. Teachers at the secondary education stage apply teaching methods which they learnt in and have been practising since their training in teacher training colleges. They know every boy or girl in a class his or her problems, difficulties and background and have sympathy for him or her. The interaction between the teacher and the taught is very strong at school stage. Under such an atmosphere the pupil feels secure and learns with recognition and confidence. Education is a bipolar process of interaction between the teacher and the taught. This is the very essence of any educative activity. This interaction is conspicuous by its absence in colleges with a class of 100 or more students. A pupil thrown from class of 40 to 50 into a class of 125 gets unrecognised in such a big class. The lecturer delivers his lecture from the dias irrespective of whether the pupils attend to him or not. Unrecognition of a little teen-ager with over-flowing physical and mental energies is the most horrible phenomenon in our colleges. This results in a feeling of revolt and hatred towards studies. Whenever bored by volleys of lectures, a one sided phenomenon quite strange to him throughout his career as an educand he slips into truancy, french leave and

all what now a-days happens at the door of the colleges. This situation leads him to resort to guide books, sure suggestions and such easy literature during a few days preceding the public examination. If, at all, any lacunae remains in his performance in the examination hall, where mass-copying is growing into a form of an usual phenomenon he pursues the answerbooks and knocks at the doors of the examiners. All this is the result of lack of profundity and upto-date knowledge, lack of methods of interpersonal communication which can encourage learning efforts of the pupils, and lack of control over a class of about 125 on the part of our present lecturers of undergraduate colleges. The note of the Commission is surprisingly silent on this vital issue. Indeed, we are playing with the future of our growing youths who will shape the future of this great democracy till 2125 A.D. The University Grants Commission as well as educational thinkers, planners and administrators should take up this issue very seriously and evolve strong and effective appropriate measures to eradicate these intolerable evils in face of the fact that mild measures like tutorials with a view to bringing in the process of inter-action in higher education have been rendered to a farce by the lecturers whose superfluous approach to tutorials has not attracted college students' minds.

Work Experience

The note on work experience prepared by the Ministry of Education and Social Welfare for the consideration of the C A B E on November 15 1971 contains amusing brainwaves. It is really very interesting to read, but as one starts thinking about implementing the concept as depicted in the note one stands perplexed and starts asking oneself whether this is feasible. At a time when most of our primary and secondary schools (teaching from standard I to X) have no facility to provide to children facilities in even one area and when State funds do not permit this proposition to offer a series of areas of work experience appears simply utopian. Some States have interpreted work experience as a craft and have prescribed in the syllabus for standards I to X that the school will teach one craft out of the list given in the printed syllabus books. This is very surprising and even more astonishing is the fact that they have not been able to provide funds for introduction of these crafts in all schools. That work experience connotes one craft is a self defeating approach and runs counter to the idea of work experience defined by the Education Commission. The idea expressed in the note that work experience may amount to vocational training is also astonishing. Work experience was never imagined by the Education Commission to amount to a process of

is to correct the errors committed in the past and taking the community in full confidence by wide use of mass-media, brochures, etc. This activity will help to develop schools as real community centres and will assign cultural value to our contemplated work experience programme. The first thing that is required is to bring home to our teachers and head masters these potentialities of work experience programme.

The Ministry's plea to utilise local artisans and mechanics as resource persons does not seem to be practical. Rural artisans and mechanics are mostly illiterate people. They have no ability to express the techniques in words, though they can demonstrate the same. Besides, these persons are too busy with their own workshops to spare any time for fulfilling this expectation. The Ministry's suggestion to utilise the services of discharged or retired military persons trained in various technical areas is worth considering for training teachers on job as well as pupils in classes or in workshops attached to schools, although it is doubtful whether such services would be available in every school. However, wherever such services are available, they should be availed of as a transitory measure till competent and devoted teachers for work experience are available in schools.

Introduction of work experience programme as an integral part of general education, thus, is not so easy a problem as it appears to be. If we want to see that history does not repeat itself, we shall have to take all measures very carefully and to gear Industrial Training Institutes as well as Agricultural schools towards teacher-training programmes required for introducing manifold work experience programmes in our schools at primary and secondary stages. An appeal will have to be made to the community to provide workshop facilities in its schools out of voluntary contribution. It is only through such measures that we can ensure facilities for work experience programmes in every school at the earliest; for, if the introduction of this worth while programme has to depend upon the availability of State funds, it will take years to do so. Government can provide funds for the introduction of work experience to a limited number of schools every year subject to the availability of funds. It is, therefore, necessary to appeal to the community so as to realise this target simultaneously in all schools.

Some devotes of basic education scheme, promulgated by Mahatma Gandhi in the thirties of the present century, are not prepared to accept work experience as a substitute of basic education which, accor-

ding to Gandhi, should be productive, craft centred and self supporting for the school to the extent of meeting the teacher cost. This is a matter of principle and opinions. But child in of the age group 6+ to 11+ cannot be expected to produce saleable products. The experience of introduction of spinning and weaving in basic schools entering to the age-group 6+ to 14+ has been disappointing in the sense that there was naturally much wastage of raw materials and that the cloth, mats, etc, produced by the basic schools could not fetch desired return so as to meet the teacher cost. Though it is not desirable to enter into this controversy between proponents of basic education and proponents of work experience, efforts should be made to define work experience more clearly and unambiguously in the context of modern needs and developments. If Gandhi were alive to day he would have redefined basic education in the new national context because he had a pragmatic approach to things happening in and out of the nation. The staunch disciples of Gandhi should give careful thought to this and should extend their cooperation in defining the term 'work experience' clearly in the best national interest. Education is an ever growing, ever changing process in new context. No one can ignore this fact. Educational thinkers and planners should devote their attention to redesigning the term 'work experience' and should put an end to this controversy.

Urbanisation

The world is facing a horrible unchecked process of heavy urbanisation. The developing world also faces the same problem on a different background. Sociologists, historians, philosophers, architects, economists and ecologists are much worried about this evergrowing problem. The eminent historian Arnold Toynbee has forecast that the entire world will be covered by megalopolis and the series of villages between two metropolis will exist no more thus creating megalopolis. Toynbee seems to have based his forecast on the historical process of urbanisation. One thousand years ago when the total world population was only five crores i.e. fifty million there were only two metropolis Babylon and Memphis. When the first century (A.D.) started the total world population was twenty crores i.e. 200 million with two metropolis Rome and Constantinople each having a population of ten lakhs. Thus in 2000 years the world population quadrupled while the population growth during the last 200 years has been explosive the estimate for the year 2000 A.D. being 7000 million i.e. thirty five times more than it was in the days of Jesus Christ. Metropolis like Tokyo, New York, Shanghai contain population of more than 10 million each to-day. Western

civilisation has grown into urban civilisation with the majority of the population residing in urban areas. This is the result of heavy industrialisation which is accentuated by strident scientific and technological growth. Seventy five percent of the total population of U.S.A. to day resides in urban areas while eighty percent of British population is urban population. In Russia, only forty-four percent of the total population resides in rural areas. Thus in the industrialised western countries the area and population of cities are ever expanding and ever-increasing. In the beginning of the present century, about one-third of total population in the west was urban population while by the end of the century seventy five percent of the population will be urbanised. They are however, alert and consciously striving to maintain balance between nature and civilization and to combat problems of social tension and pollution and ecological problems. According to damagogic estimates the population in metropolis like Tokyo and Sanghat will be between 20 to 30 million each in the year 2000 A.D. As the great poet Ode put it individual frustration, tyranny and perplexion have become synonymous to life itself in these big metropolis, be it Tokyo, New York, Sanghai or London.

Suitable Technology

The developing countries of the world are confronted with quite different set of serious and horrible problems of rush towards cities from villages. Bombay receives in every seven minutes one new comer in search of bread earning. This simply aggravates the problem of foot-path or hument dwellers. In Bombay itself 25 million persons live in unhealthy huments and 5 million persons are footpath dwellers. Similar is the condition at Calcutta, Madras etc. This situation creates challenging problems of socio-economic dimensions and unhealthy, antisocial practices continuously growing in nature as well as perplexities. Life is becoming more and more unsecure as unchecked urbanisation grows in developing countries. Episodes of pick-pocketing, kidnapping, anti social trafficking and what not are horribly recurrent. This also creates huge ecological problems due to density and pollution of air. Urbanisation in developing countries is, thus, not only attributable to industrialisation alone but it is more attributable to the dysfunctional educational systems which are the remnants of colonialism from which these countries have been recently freed. Rural modernisation and decentralisation of industries in a big way, along with effective impetus to agro industrial development and handicrafts, is the only way out.

The ecologists and botanists are much worried at the fact that pollution of air affects the atmosphere and results in irregular rainfall. This is very serious in view of the fact that more than 1000 million people have to survive solely on monsoon sky. The problem, thus affects one fourth of the world population to-day. All developing countries should take serious note of this fact and plan their own economy and develop their own suitable technology so as to combat these evils. The tendency of borrowing technology from the advanced countries shall have to be checked and arrested by these nations if they want to survive with self-respect and self-reliance and without evils which may grow to the extent of ruining them. Blind rush towards modern technology of the advanced countries and indiscriminate use thereof will lead these nations to the valley of self-destruction. Every nation has its own individuality and problems which should be solved in its own way suited to its culture and stage of development. India also has to be alert towards this vital issue. We should guard against importing the Russian or American technology which lays stress on horse power in view of person to land ratio obtaining in these countries. With three times more land than India has, population in America is one-third of Indian population. This population ratio will go on changing in view of our present growth rate showing inclination from 2.5 percent towards 3 percent, despite vast family planning programmes. We shall have, therefore, to devise and evolve our own technology suited to our conditions which demand harmony between horse power and muscle power. This is not impossible for Indian talents. The only thing required is to search scientific talents to provide rich and full educational programmes to them and to extend, most liberally, fullest facilities of laboratory or work-shop, full financial provision for experimentation and designing. If this is done, there is no doubt that India will emerge as a nation capable of solving her own problems including food problem with the Indian technology developed by her own scientific talents. At the same time, India will be in a position to save herself from the ecological catastrophe by bringing in harmony between man and nature. Japan is a glaring example before the developing countries. This poses a big challenge to our educational and economic thinkers and planners.

The world is facing to-day social, economic and political crisis and instability. The main forces responsible for this position relate to the world wide scarcity of agricultural, industrial and financial resources. This is the result of extravagant use by man of material resources provided by mother Earth. This extravagance still continues. The eco-

nomies of most of the countries of the world are facing extra-ordinary inflation, unparalleled in human history, and industrial stagnation. The fuel policy adopted by Arab Countries recently has added fuel to the fire. This situation is explosive in senses more than one. It poses restraint to developing nation's endeavours for economic growth. This would result in everwidening gap between developed and developing countries. Developing African and Asian countries have often to suffer from natural calamities like floods and draughts. India is not an exception to this. We are even more adversely affected by this situation in view of prevailing unchecked inflation, vast unemployment and the atmosphere of industrial turbulence created often by unionist activities which are supported by some political parties and scarcity of power which adversely affects agriculture; industry and trades. We aspire for speedy solution of our social and economic problems to the stature of the developed countries in the shortest possible span, while these hurdles to our progress are aggravated by over-increasing mass of unemployed and under-employed and more seriously by the scarcity of foreign exchange and internal investment. We must review our economic system, industrial technology, agrarian technology and processes, and more so, our educational structure in this national context and should revise all programmes keeping in view that borrowed technology of advanced countries will lead us to becoming a prey to neo-colonialism and that we must utilise and develop our own talents for national reconstruction through restructuring our economy by our own technology which would harmonise man with nature and would lead us to achieve the goal of progressive socialism as preached by the late Pandit Jawaharlal Nehru, trying as far as possible to reach the ideal of Sarvodaya preached by Mahatma Gandhi. A labour-concentrated economy must develop its own muscle-oriented technology. This requires a lot of research work, experimentations, tryouts and bold resolutions to evolve it through the process of trial and error, of course, by developing and facilitating our own talents. Education which is adored as an agent of change, has to play this very important role. Needless to stress that our present educational structure and programmes will have to be drastically changed, rather revolutionised so as to substitute capitalist and dependent technology by Indian technology, suited to our ideals and socialistic pattern of society, by our own talents and resources which will enable India to grow into a self reliant nation which may lead developing countries from darkness to light by setting a worth emulating example. India has a great role to play on the plane of international reconstruction and this is possible only by boldly restructuring education.

Challenges

The coming century has already started casting its shadow. The growth of metropolis into megalopolis obviously reduces the arable land available to mankind. The West has started facing the problem of finding out alternative sources for food procurement. They are experimenting on marine agriculture in a big way. Twenty-first century A.D. will necessitate production of food stuff from lifeless and inorganic raw materials. Scientists in London have successfully experimented on preparing artificial meat which contains more protein than natural mutton and at the same time is less costly. Scientists in France are busy getting protein by applying chemical process on petrol. Another problem is of ecological nature. According to ecology, man requires grassland measuring twenty five square feet per capita at minimum in order to get sufficient oxygen. The unchecked growth of urbanisation has rendered this impossible in evergrowing urban areas. This poses a serious problem before us in India. Before we come to such a situation we must review the present economic trends and channelise them into healthy directions by restructuring our economy.

The second half of the present century has witnessed man made sub planets rotating in the space. Space science is making tremendous progress all over the world. India also has entered into space technology. By the end of the century the number of man made space ships will be moving over the Earth which will be like a village where to meet and talk with any villager from one end to the other is a minute's job. These space ships will have revolutionary effect on social, linguistic and economic relationship among the citizens of the world. The use of cybernetics will be an usual daily routine of human life in the twenty-first century which will have to explore places other than the Earth for human habitation. Even today economists, sociologists and politicians accept this kind of strident demagogic growth but they have no panacea for this world wide social illness. As the late thinker and historian H.G. Wells put it, "Future history will be like a race between catastrophes and education". We must be cautious to guard against these coming ills and prepare our rising generation to face the coming era with all future shocks in its train. India must play her vital role in this situation and should, through revolutionising her educational system rise to her past stature which she commanded in the days of Buddha and Mahavir and Emperor Ashok. If India comes forward with this new dimension and capability she will prove herself a real land of Gandhi, Buddha and Mahavir. The real Indian culture and philosophy which have sustained

this country throughout the medieval dark age and adversities in modern history can only save the world from slipping into the above mentioned catastrophes. This may sound to some as eulogizing utopia; but, in the present international context, the only way of hope can emanate from future India, if she comes out of her internal trifles, gains real democratic solidarity, purged off any sort of hero-worship, and boldly restructures her educational system and programmes. A great challenge indeed to our educational planners, thinkers and executors.

Pre-School Education

During the post-independence India, rather throughout our educational history, we have criminally imposed 'tyranny of monotony, connivance and helplessness on our innocent children of the age group 4 to 6. Pre-school education has been unpardonably neglected by the Government as well as the communities. Governmental resources are usually employed in fulfilling the Constitutional Directive for boys and girls between 6-14 and in other stages of formal education, leaving a little lip-sympathy assistance to the voluntary efforts of pre-school education. Rural communities, containing majority of illiterate members have also remained inert to this stage which marks very sensitive and formative age-group. Experts from 23 countries agreed at a Unesco meeting, held on February 16 to 20, 1970 in Paris and held an unanimous view that education, as at present, does not meet modern demands and the consensus was that education should be a cradle-to-grave process and that formal education should start earlier as in Soviet Union. Soviet children learn algebra at an age when our children learn only arithmetic. The United Nations General Assembly proclaimed the Rights of the Child on November 20, 1959 as under :

"The declaration of the Rights of the Child to the end that he may have a childhood happy and enjoy for his own good and for the good of society the rights and freedoms herein set forth, and calls upon parents, upon men and women as individuals and upon voluntary organisations, local authorities and national governments to recognize these rights and strive for their observance by legislative and other measures progressively taken in accordance with the following principles :

Principle : 1

The child shall enjoy all the rights set forth in this Declaration. Every child, without any exception whatsoever, shall be entitled to

these rights without distinction or discrimination on account of race, colour, sex, language religion political or other opinion national or social origin property, birth or other status whether of himself or of his family

Principle 2

The child shall enjoy special protection and shall be given opportunities and facilities by law and by other means to enable him to develop physically mentally, spiritually and socially in a healthy and normal manner and in conditions of freedom and dignity. In the enactment of laws for this purpose, the best interest of the child shall be the paramount consideration

Principle 3

The child shall be entitled from his birth to a name and a nationality

Principle 4

The child shall enjoy the benefits of social security. He shall be entitled to grow and develop in health, to this end special care and protection shall be provided both to him and his mother including adequate pre natal care. The child shall have the right to adequate nutrition housing, recreation and medical services

Principle 5

The child who is physically, mentally or socially handicapped shall be given the special treatment, education and care required by his particular condition

Principle 6

The child for the full and harmonious development of his personality needs love and understanding. He shall whenever possible grow up in the care and under the responsibility of his parents and in any case, in an atmosphere of affection and of moral and material security. A child of tender years shall not save in exceptional circumstances, be separated from his mother. Society and the public authorities shall have the duty to extend particular care to children without a family and to those without adequate means of support. Payment of State and other assistance towards the maintenance of children of large families is desirable

Principle 7

The child is entitled to receive education which shall be free and compulsory at least in the elementary stages. He shall be given an

education which will promote his general culture, and enable him, on a basis of equal opportunity, to develop his ability, his individual judgment, and his sense of moral and social responsibility, to become a useful member of society.

The best interests of the child shall be the guiding principle of those responsible for his education and guidance; that responsibility lies in the first place with his parents.

'The child shall have full opportunity for play and recreation which should be directed to the same purposes as education; society and the public authorities shall endeavour to promote the enjoyment of this right.

Principle 8

The child shall, in all circumstances, be among the first to receive protection and relief.

Principle 9

The child shall be protected against all forms of neglect, cruelty and exploitation. He shall not be the subject of traffic in any form.

The child shall not be admitted to employment before an appropriate minimum age; he shall in no case be caused or permitted to engage in any occupation or employment which would prejudice his health or education, or interfere with his physical, mental or moral development.

Principle 10

The child shall be protected from practices which may foster racial, religious and any other form of discrimination. He shall be brought up in a spirit of understanding, tolerance, friendship among people, peace and universal brotherhood, and in full consciousness that his energy and talent should be devoted to the service of his fellow men.

Government at the Centre and in the States as well as the local communities should introspect themselves to find an answer to the question : what have we done to ensure the Rights of the child so thoughtfully declared by the United Nations General Assembly seventeen years ago ? The plight of Indian children, especially children of pre-school age is too obvious to be narrated. No substantial action, however, has so far been taken in this direction, except a few voluntary and private efforts to start pre-school educational institutions in urban and semi-urban areas and a few programmes of Balwadias, undertaken by

agencies like Social Welfare Board In private pre primary schools the fees are so prohibitive that the children of the low and middle income group cannot join them Governmental assistance which is always subject to the availability of funds to pre primary institutions not charging fees or charging nominal fees is too meagre to maintain such institutions by voluntary agencies The result is that millions of our children of the age group 4-6 while away their time in the activities and directions which attract them or encourage their response These activities are free will aimless activities which do not help shaping the personality of the child in the desired manner

In an educational structure visualized by the Education Commission (1964-66) the first stage is a pre school stage of one to three years i.e. relating to the age group 3 to 6 years In this regard the Commission stated Recently the educational importance of this stage is being increasingly realised Modern resources have shown that the years between three and ten are of the greatest importance in the child's physical emotional and intellectual development It has also been found that children who have been to a pre primary schools have better progress at the primary stage and help in reducing wastage and stagnation The modern trend in educational policy therefore is to emphasize pre primary education especially for children with unsatisfactory home background This is the direction in which we also should move "

ment Administration which taken together, ran about 20,000 Balwadiies having total enrolment of about 600,000. The progress is no doubt small in relation to our goals, but it makes a tremendous advance over earlier achievements."

This reveals the situation in its proper perspective. During the span of fifteen years after independence, the total direct expenditure on pre-primary education increased from 0.1 percent to 0.2 percent, how could the Commission consider this as a process gaining popularity? This considerably negligible progress is not due to popularity but it is attributable to arousal of mass consciousness about the importance of pre-primary education in urban areas. The increase in enrolment from 28000 to 2,50,000 should appear dwarfish to any onlooker as he compares this with the fact that 32 percent of our population i.e. about 200 million persons form urban population in India and that Bombay Metropolis which had population worth 59 lakhs in 1970-71 has at present population of 70,73,000. Even assuming that about one-tenth of our total population falls within the age group 4-6 years, the population of this age-group at present would be 65 million out of whom 2,50,000 attend pre-primary schools, i.e., about 62.5 million children in this formative and very important age-group are out of pre-primary schools. The Balwadis run by Social Welfare Board and Community Development Administration are not at all comparable to the concept of pre-primary schools. They are more recreational than educational centres for children who cannot be looked after by their parents who are busy with their fields and cattle. Comparing the enrolment of 2,50,000 in pre-primary schools with the enrolment in Class I in 1961-62 which was 12,384,000, one would stand convinced that we have criminally neglected children of this age-group, we have connived at the vital suggestion made in the Sargeant Report (1944) and that the Education Commission have taken too mild a note of the position of pre-primary education in India by saying, "The progress is no doubt small in relation to our goals." and have really missed their duty of giving an objective and critical opinion on the problem when they added to this statement, 'but it makes a tremendous advance over earlier achievements.' This is really deplorable as it simply reveals the timidity of the Commission to criticize the governmental policies regarding pre-school education. The Commission's recommendations to augment the growth of preprimary education in setting up state-level centre for the development of pre-primary education attached with State Institutes of Education, establishment and conduct of pre-primary education by private enterprise, encouragement to experimen-

tation, particularly in devising less costly methods of expanding pre-primary education, the establishment of children's play-centres in close association with the primary schools, etc. are half-hearted and to use a strong word, self-deceiving-in view of their statement, "Modern researches have shown that the years between three and ten are of the greatest importance in the child's physical, emotional and intellectual development." The impact of the recommendations of the Commission is desirable in the weightage given to pre-primary education in the two Five Year Plans succeeding the Commission's Report. The Commission's recommendation to get pre-primary schools established and conducted by private enterprise is quite sublocating to the growth of pre-primary education in this country. The Commission, which could boldly advocate common school system for all school stages, is not in favour of common pre-primary school system to be adopted all over the State. This recommendation, made for the reasons best known to the learned members of the Education Commission, runs counter to the interest of children of lower and middle income groups and hence, counter to the Declaration of the Rights of the child by the General Assembly of the United Nations in 1959. As stated earlier, private enterprise charges heavy fees which limits the right of the child to equal educational opportunities and encourages elitist system of education; so such a situation will enable children of the rich to get admission to pre-primary schools which will mould their personalities and attitudes in such a way as would enable them to rank favourably in primary, secondary and higher education. Thus, this suggestion cuts at the very root of the universal Right of the child to grow through appropriate education at the stage of infancy and angers ill for the children of lower and middle income group, thus resulting ultimately in widening the gap between the rich and the poor because children of the rich will fare better at all stages of education and will be favourably placed as earners and citizens in comparison to children of other sections who are in overwhelming majority. Such a recommendation should have been thrown out by the educational world of India; but it is really a great irony of our national destiny that we could not realise the far-reaching implications of the recommendation, which is capitalistic and against our national

voluntary and missionary agencies and it is a terrific experience of even the rich and highly placed officials to get their children admitted to these pre-school educational sections in cities like Bomhay, Calcutta, Delhi, Madras, Ahmedabad and even in growing small-size corporation areas like Baroda. The exploitation of the parents of young kids between 4 and 6 years of age by the voluntary and missionary agencies running kindergarten or montessori classes has reached its intolerable heights. The Commission should have considered this situation and should not have left pre-school learning at the mercy of private enterprise. They should have clearly alerted governments and selfless voluntary organisations to shoulder the responsibility to develop this basically useful stage.

Pre-school education must be recognised as a constituent part of the total school system. We cannot afford to waste the precious two years of our millions of infants in urban as well as in rural areas. In an age when science and technology have been progressing at unprecedented rate and when this has started affecting human life in all its aspects, including values of life, we have to evolve an appropriate and comprehensive educational system with a view to ensuring well-informed, dynamic future citizens. The span of formal education in human life cannot be increased upward and the present span of education is not sufficient to achieve this goal. If we miss this very important phase of life i. e. infancy, we shall prove ourselves guilty of not providing suitable and adequate educational opportunities to the future citizens of India. By utilizing this most important stage of human life, we can have seventeen years' general educational programme instead of fifteen years' formal educational programme visualised by the Education Commission and with this new programme we can mould efficient, dynamic citizens with healthy attitudes and adaptability through life-long learning. Educational thinkers and planners as well as local communities cannot afford to continue neglecting pre-school educational programme. We must concentrate our efforts on this important issue right now and should cater to this stage adequately in our plan and non-plan budgets.

Student Indiscipline

The growing problem of student indiscipline has grown into a constant headache for heads of secondary schools, particularly principals of undergraduate colleges, heads of higher technical institutions, Vice-Chancellors of Universities, governments and society at large. Any small event disliked by students immediately becomes a cause of mobocracy in educational institutions and universities. Strikes

and ghe nos sometimes even assaults have become common recurring events The present youth has a tendency to get more importance and independence He immediately affirms himself against any sort of authoritarianism be it in school at home or in society The authoritarian classroom atmosphere and discipline arouses his disgust towards learning He is not interested in overweening methods of teaching He is not interested in a school programme which does not appeal to his emotions likings and hopes Any programme which segregates him from his natural social emotional environment is abhorred by him Any dictation from a teacher or a parent is rebounded by his open opposition or silent indifference The rules of discipline binding him to do this and not to do that provoke him fitted in the rigid time table and curricula accompanied by examination oriented superfluous informative teaching efforts he sits bored in the lifeless class Superfluous cocurricular planning does not attract him as it appears to him imposed and not related to his life Although the case is no more seen in schools the present frame of the school frustrates him from the very first day he enters the school The lack of programmes for emotional initiation and mental preparedness in the process of leading the child from its home to school sows the very seeds of the future indiscipline displayed by him as it grows from boyhood to adolescence stage The adolescents in schools do not desire to submit to social taboos and school rules The ideal of pseudo enteric education so enthusiastically and substantially advanced by Lestalotri has still remained imprisoned in the four walls of the lecture hall of teacher education colleges We have not yet realised that we can never expect to impose adult standards on the growing children

training and are indifferent to the modern developments in contents and technologies of various subjects. They are stable and safe in service irrespective of what and how they teach and how they should teach. This stability in this greatest public industry employing the largest army of men and women, perhaps second to defence personnel, has resulted in inertia among teachers in schools and colleges as well. Recent development of trade-unionism among teachers has strengthened this tendency, with the result that educational programme at present are not even so effective as they were a generation ago in the hands of permanent, devoted and seasoned teachers. It is no wonder that pupils feel a vast gap between the life around them in home and community and life at school with such irresponsible superfluous teachers. With such an army of teachers we cannot hope to see education as 'an agent of change, not even a receiver of change outside the school world though most relevant to modern life. Students are, therefore, not interested in the classroom monotonous and lifeless teaching. The experience of even the seminars, of refresher courses, in-service training and summer institutes for teachers has so far yielded little benefit to the field because of this inertness and insincerity on the part of teachers. New programmes in the school or new contents in subjects, revised only rarely in a world which ordains that school curricula should be put to an ever-changing process in context with modern developments in knowledge and educational technology, meet with horrible failure due to the inability of teachers to teach them and their indifference to imbibe them through training programmes organised by governments and other voluntary agencies, although the primary responsibility to update oneself rests on teachers. The experience in Gujarat has been quite revealing in this respect. The school syllabii were revised on the pattern suggested by the Central Syllabus Committee appointed by the Government of Gujarat under the chairmanship of the Minister of Education in 1963 and from 1965 onwards after the publication of the general report of the Committee under the title 'Scheme for the Reconstruction of the school curriculum in the State of Gujarat'. The Committee recommended for the school pattern of 7+3+2+3 (higher education) i.e. 12 years' school pattern in the year 1964 during which Education Commission also recommended the same pattern in the general popular term 10+2+3 in the year 1966. The revised syllabii were gradually implemented beginning with lower classes from June 1968. A statewide programme of orienting teachers and supervisors to the new approach, objectives and content through State Institute of Education and other agencies was launched before the new syllabus was introduced. This has remained a continuous

recurring process with the introduction of the new syllabus in every upper standard. In the year 1975 the first cycle of 7+3 was over with the introduction of the new syllabus in standard X. There was a great uproar at the fag end of the academic year 1974-75 as the secondary education Board of Gujarat declared the uniform pattern of public examination to be held at the end of Standard X in March, 1976. The points publicly raised by various persons and groups, among whom teachers, too, were a party, were generally that teachers were not well-prepared with the new syllabus, especially in Science and Mathematics, that pupils will be put to great inconvenience and loss if a uniform pattern of public examination was imposed upon them, that a wide choice should be offered by offering more subjects etc. This attitude which was mainly on account of deficiency, inertness and lack of endeavours to learn the new contents thoroughly and teach the same effectively on the part of teachers resulted in forcing the Gujarat State Secondary Education Board to include some 23 more subjects and to dilute new Science and new Mathematics by allowing students to offer Science at Home in option to the prescribed disciplinary sciences and Commercial Arithmetic and uniform pattern of general education has had to be given up and a retrograde step detrimental to the interests of students had per force to be taken by Secondary Education Board. This is the result after spending enormous human and material resources for the effective implementation of the new syllabus. Teachers in Gujarat thus criminally failed to catch up and implement the new syllabus, specially in Science and Mathematics. Now that the Higher Secondary stage had to begin from June, 1976 when standard XI would start working in school as per schedule the same teachers' unionist mentality was horribly revealed through various statements made by them at the bottom of which the fear of retrenchment was the only fear.

How can education prosper in a situation in which teachers instead of students endeavour to establish themselves as a vested interest in the field? How can the national economy and culture prosper with such teachers who agitated for their rights and better emoluments without doing any justice to students by teaching properly and thoroughly what they are expected to teach according to the curricula by the State Government? This is horrible and mischievous in the sense that it amounts to betrayal to the interest of our rising generation. Students would naturally emulate their insincere teachers and would show no interests in their studies and would resort to indiscipline, inertness and various sorts of mischiefs which are bound to emanate from their elan vital which cannot permit them to sit silent and

inactive. Here lies the root of school and college indiscipline. When teachers in advanced countries utilise the vacation period for increasing their professional efficiency by attending various workshops, refresher courses, seminars, subject-planning groups etc. or by self-study in university reference libraries, Indian teacher not only whiles away vacation period in idle pursuits but agitates during working days also by organising processions, dharnas, marches, strikes etc. for gratification of their material interests. How in such an atmosphere can we expect ever-renewing, ever-changing, dynamic educational system which can stimulate interests in students and prepare them for life in future? Educational programmes which cannot have mutual inter-relationship and harmony between life in school and life in the community are bound to result into indiscipline.

Generation Conflicts

Gap between the decaying and growing generations is widening in the later half of the present century due to technological revolution which has continued causing changes in values and conditions of life and social conditions. Older generation is very slow, rather indifferent in welcoming such changes which appear drastic to them, while the young generation is prone to imbibe these changes in their life and becomes the torch-bearer of social reforms. Any attempt by older generation to deter the youth from following this new revolution results in conflict between the old and the young and ultimately results in youth unrest which has an impact on teenagers in schools and colleges. The uncompromising attitude of the older conservative generation is, thus, one of the causes of indiscipline in schools and colleges.

Tremendous growth of education-expansion in all stages of education has resulted in younger generation of Head-Masters for whom it is very difficult to control the staff of his colleagues who are secure with their state-level trade unionist associations. The existence of seasoned, well-equipped with knowledge and technique of educational administration, self-discipline and devoted head masters is experienced at a few places only. That generation is also nearing retirement. This position has led to disintegration in school administration, groupism and indiscipline among teachers which affects school discipline adversely. This unprecedented expansion has resulted in large classes and congestion in schools, especially in urban areas, where the school appears like a factory with its monotony. No co-curricular programmes for the balanced and harmonious growth of the personalities of the students are planned in the real sense and spirit. The existence of the

large classes creates various problems of discipline, for a good deal of time of the teacher of a large class is wasted in maintaining classroom discipline. No remedial teaching for or even personal attention to pupils lagging behind is possible in such a class. Curricula are hurriedly run through by the teacher with no time at his disposal to check and ascertain whether pupils have grasped the units-targets or not. Standards of education are ultimately deteriorating. Annual examination is rendered to a farce in Indian schools, especially at the stage of elementary education. The pupils, thus, promoted are at a loss to grasp the syllabus of the new class. This position is reflected in the results of the public examinations which are about 50% with all the malpractices which are open secret now-a-days. This all leads to strengthening the school and college indiscipline.

The worst feature of this challenging problem is the exploitation of student-indiscipline in schools and colleges by anti-social elements and political parties. Naxalite tendencies growing among youths are the result of this exploitation. The use of innocent and immature students by political parties in organising processions, marches, agitation, etc. not only adds fuel to the fire, but is detrimental to our national destiny. Many political revolutions in developing Afro-Asian countries are attributable to this undesirable exploitation of teenagers by the political parties. A mature youth has every right to have his own political alliance with any party, but the present tactics of involving immature students in political agitations and of indoctrination of political ideologies into them by some political parties anger ill for the solidarity of Indian democracy. Such a process should be curbed and uprooted by all governments.

As Jacques Bouquet, Deputy Director of Unesco on Educational planning wrote in UNESCO Features in December, 1968 : 'The attention accorded to young people and their growing importance and independence seem to be closely linked to the development of an industrial society, first in Europe, and later throughout the world. It is natural that in a rapidly changing society the gap between the generations should widen. The population factor has recently added to this acceleration of cultural change. The young today are not only proportionately more numerous than they were twenty years ago, they also play a far larger part in the economy of consumer society as must be plain to anyone who looks at commercial advertisements. Above all, youth has enhanced prestige; culturally it represents an enviable stage which we should honour as long as we possibly can, and which has our

sympathy. Thus, the main body of youth as such is reinforced by a host of sympathizers... In the attack launched by the young against adult society, students form the general staff and the shock troops. Their rebellion is, therefore, not an isolated phenomenon; it is an example, and a particularly striking symptom, of the anxiety felt by young people in regard to a society which seems incapable of properly integrating them. The student revolt in the universities shows a certain basic unity, even though it takes widely different and sometimes contradictory forms. On one hand, the students want to be recognised as a broadly independent social group, on the other hand they oppose either violently or peacefully, a society and a culture, which rightly or wrongly, they consider to be absurd.

"Students are challenging the whole fabric of present day society; they do not limit their demand to a few minor reforms, but all for a radical transformation. They share, with considerable or practical variants, a number of common ideas; distaste for the cheap glitter of a commercial society which leads to alienation in the, sociological and psychiatric senses of the word, questioning of a university education which aims at turning students into the future leaders of the alienated society, desire to give free rein to their imagination and instincts inspite of all 'repressions', refusal to separate work and leisure, and rejection of consumer culture.

"It is probably on this point that the authorities, educators and adults in general fall into serious errors of judgment. They readily admit that problems do exist, but they are reluctant to allow the young themselves to pose their problems. Here as in all other educational matters, they claim to know better; they themselves would like to pinpoint youth's problems and to reduce them to what they would like them to be, to something which would be 'comprehensible' and acceptable to them.

"The same story is repeated in one country after another : When disturbances arise, a handful of 'agitators' or 'ringleaders' are singled out and carefully dissociated from the "vast majority of students" who are said to be reasonable (meaning here that their thoughts and those of adults are basically on the same wave-length.) This so-called 'reasonable' majority soon makes common cause with the ring leaders and unrest grows; the adults resort in turn to force and old-fashioned manoeuvring. It is a historical fact that repression never seems to have succeeded in providing a lasting solution to student problems. But manoeuvring, when it comes to education is no better : it ends in

creating mutual misunderstanding, increasing opposition, confusing the issue and, therefore, postponing a real solution. If there is one sphere in which it is impossible to cheat with impunity, it is certainly that of education. Perhaps that first step towards the solution of the student problem should be for adults to stop and think about their own attitudes, their secret fears, and their inhibitions in their dealings with the younger generation, and so come to see, if not to accept, the young as they are, and not as they—the adult would like them to be."

These extracts from the studied article of Jacques Bousquet are quite revealing and deserve careful consideration by all adults-parents, teachers, educationists, social workers and even political leaders, some of whom play the role of making the "ring-leaders" and steering the student movements for their narrow self-aggrandisement. This filthy activity of politicising the student indiscipline is the nastiest of all political games being played by politicians, especially extremist anarchists.

The same writer in his another article published in UNESCO TEACHERS in December 1969 has thrown more light on the issue by dwelling upon the constructive measures to allay the growing fear of student unrest as under :—

"Rarely a year ago, student demonstrations were regarded as local incidents caused by special university or political conditions. To-day one speaks with some justification of a world-wide movement; it has spread to many different countries in all continents-capitalist and socialist, liberal and authoritarian, rich and poor. If we wish to turn to good use the ideas and forces released by the student unrest, we must look more closely at what exactly the students themselves are asking for and what kind of university they would like to see in the future. Obviously their demands vary from one country to another and change between one crisis and the next."

Suggesting remedial measures on this diagnosis of the problem, Jacques Bousquet states :

"First of all, the students insist on their participation in the education they receive. This is their fundamental claim, and, in a sense includes all the others. It is a claim that goes far: indeed, in many cases, representation on the university or faculty council no longer satisfies students to-day. They demand a say in the creation of new university structures, they wish to take part in the planning of higher education as related both to social demand and to economic

requirements. They want to discuss curricula and teaching methods. Moreover, they will not agree that such participation should conform to bureaucratic or hierarchical patterns: they call for direct and permanent democracy. They believe that participation should begin in the class-room and that teaching should be a joint venture of professors and students. This, in a way, is the application at university level of the principles of the active method which many educationists have been recommending for years; it would also be an initial experiment in the propitious setting of the university, of a society without classes or constraint.

"Thus participation should have the effect of demolishing the water-tight barriers between students and professors. It would mean the end of professional 'pontificating,' of the 'high table' mentality, of university feudalism. The principle of teacher and taught, as understood by more advanced students, is not confined to the university. It can have very important implications for secondary and primary education, for young workers' education, for aid to developing countries, and life-long education.

"For a long time now, there have been teacher training colleges with primary schools attached to them; students advocate the establishment of higher and secondary establishments where, from their second year at the university onwards, all students (and not only those intending to become teachers) would do a certain amount of teaching; some groups have suggested that "autonomous universities," run by the students and the teaching staff, should establish institutions of this kind; they would be voluntary socio-cultural services and not, in any way, part of the establishment. One of the major concerns of the protest groups is to keep in touch with young workers; among the practical suggestions, they have put forward is that the autonomous universities should 'set' up people's universities, and start evening or holiday courses; these would be run jointly by volunteer students and teachers on the one hand and by young workers on the other.

Content of University Education

Regarding the content of university education, "the fundamental idea is that the system should give more emphasis to the true preoccupation of youth in all spheres: cultural, personal, social, political and vocational.....students would like to see less dividing up of subjects into watertight compartments; they want the ideas and facts of the past to be tackled more frankly from the point of view of their own period; they want a revaluation of the standards of aesthetic,

philosophical and moral values which would highlight their most urgent problems

"Students rebel against the bairack room" or "convent" discipline which they claim, prevails in student hostels, notably in regard to sexual segregation. The students see sexual liberation as closely linked to social and political liberation. The kind of freedom they seek is by no means licence, and they have as a general rule little esteem for the eroticism of "capitalist society." We may be shocked by their morals but it is nevertheless morality of a kind.

"The student movement is distinctly international in character, and a student revolt in one country has immediate repercussions in others. Students refuse to consider their struggle as a purely national affair and welcome leaders and comrades at arms from other countries. They would like to see an increase in exchanges a cross fertilization between universities. The international student movement offers exceptional opportunities for international understanding, for genuine education for peace and for cooperation between the wealthy countries and those of the Third world."

"There remains the problem of unemployment. Most students are undoubtedly concerned about their future. Yet employment problems are not always in the forefront of their demands. In some countries notably France they believe that vocational guidance should be creative and individual, that it should help them to discover and confirm their natural bent and not merely select and classify them after the event like cattle. Similarly, the examination system should no longer be a filtering process designed to single out a small group of élites whose diplomas give them an entry to the best jobs. Examinations should be either abolished entirely or else simplified by eliminating as far as possible the chance factor, examination fever and learning by rote, and by student participation in the choice of questions and even representation on the boards of examinations. In my case, the students are against any university that merely prepares students for examinations, they believe that education should be an end in itself."

The above ideas may sound startling to Indian teachers and professors, but this international phenomenon is bound to cover India in a short time. We all have to be prepared to plan our educational programmes and evaluation schemes on this new perspective if at all we desire to serve in the field. No unionist agitation will save teachers

and professors if they do not identify this new perspective and do not update themselves for all the new changes that are in store. Students will brook no professional tactics of school and college teachers once they realise that they are betrayed by teachers. The 'high table' attitude will have to be done away with; a developmental interaction on partnership basis will have to be built up and learning-oriented programmes through new techniques of programmed learning or assignments or other self-study methods for intensive learning by students will have to be used along with cybernetics at the earliest before Indian students rise boldly with determination to uproot the traditional, authoritarian and irresponsible professional pontificating or 'high-table mentality'. This requires great, continuous and hard labour on the part of teachers of schools and colleges to undergo attitudinal changes and imbibe the spirit and strength for life-long learning. This requires revolutionary attitudinal changes on the part of supervisors and educational administrators. This requires rearrangement of the material resources, including library which should be immediately strengthened and enriched with hundreds of reference and self-study books in schools and colleges. This, in turn, requires great efforts on the part of local community to raise enough financial resources to re-equip their institutions. Governments also shall have to plan this revolution. This task of finding solution to growing student unrest and indiscipline anticipates comprehensive educational planning for all stages including the idea of autonomous and open universities. The solution of this problem depends on how our educational thinkers of all stages rise to the occasion.

The problem of financial stringency through which India at present passes has been discussed before. It was stated that the axe of national economy first falls upon activities of social reconstruction which include education as a major head of expenditure. This phenomenon has become recurrent during that part quinquennium and seems to have been based on the belief or hypothesis that any measure of national economy should disturb the programmes of economic growth in the least. Such a belief is the result of the wrong concept that expenditure on social welfare activities retards economic growth and that funds for educational and social development can become available only by ensuring higher rate of economic growth. This concept of economists is too materialistic and puts the cart before the horse. Education has been recognised all over the world as the most powerful agent of socio-economic and political change. Education, social welfare and growth of national economy vary in direct ratio. Economic progress presupposes sound educational and

manpower training programme which only can ensure requisite manpower efficiency for achieving desired targets of the growth of national economy in its various sectors viz industry, commerce, agriculture and trades Adequate social welfare programmes geared to ensure for every citizen the minimum national standard of living and security help towards increasing economic efficiency through devoted and happy man power Educational progress, manpower training and social welfare activities, in turn can derive momentum by allocation of more and more required funds which come through the growth of national economy This causal inter relationship between social welfare activities which include education and manpower training and economic growth cannot be over-emphasized Planning commission which includes panels of experts of various agencies of national development should recognize this causal inter relationship and should base the total national planning not only on dynamic harmony between social welfare activities and growth of national economy but on progressive inter-action and collaboration between the two fields To take a concrete example the programme of institutionalised man power training cannot be fruitful and functional unless adequate facilities for placement for practical work and experience or internship are provided whole heartedly by all the sectors of economic activity All the same be we economists, industrialists, business entrepreneurs, agriculturists, tradesmen, social workers or politicians, we must recognize that a nation generally prospers by the human stuff it has or by the level of its total national culture and character and that the best investment that a nation can make is the investment in the proper growth, through future need-based general education and manpower training programmes, of the rising generation which will play the role of the architect of future India All advanced countries have already on hand large and liberal programmes of social welfare, social security, general education and man-power training and still there has been no indication of any retardation in the growth of their national economy on account of allocation of large funds for these activities, in fact their experience is otherwise Indian planners should always keep this in mind whenever any financial stringency happens to curtail the plan-budget

These are some of the major problems confronting India India cannot afford to neglect any of them any more for the development of democracy as a way of every Indian's life and the development of the strong sense of Indianess are highest priority tasks we must perform. This, in turn, depends on how we evolve a sound dynamic and functional national pattern and programmes of education from cradle to

grave, from creches to open University covering all so-called stages viz. kindergarten or pre-school, primary, secondary, undergraduate and university education which have so far proved dysfunctional and, instead of contributing to national progress, creates huge nation-wide problems of growing number of illiterates, fattening the live registers of employment exchanges, youth unrest with all the antisocial and anti-national activities in its train, bureaucratic and insincere attitudes of public services and inertia and indifference to the active, constructive and vigilant participation in the activities of national life and strengthening the democratic national growth; which horribly results in strikes stagnating economic progress; anti-social hoarding and parallel economy; extremist and naxalite growth; student indiscipline and malpractices in public examinations to which the school and college teachers are obviously partners; inclination towards white collar jobs and disgust for blue collar jobs; sectionalism and communalism.

India can no more afford to connive at such horrible symptoms which frustrate national life nor can she wait any longer to revolutionize educational pattern and programmes, informal as well as formal, based on the concepts of life-long education and adaptability to newer situations and innovations, for the India of the twenty-first century will no doubt depend on how we offer opportunities of development to our innocent growing generation which will rule the country till the end of the first quarter of the Twenty First century, the perspective of which is beyond human calculations and imagination. There are clearly two ways of abolishing the evil forces narrated in the above paragraphs. The first easy and speedy method is benevolent dictatorship which, for all intents and purposes, runs counter to the democratic values and individual liberty which is the very essence of human life compared to the other animal life. This method can bring immediate results; but, as time passes, the achievement is decaying and the nation again lapses to even more difficult malignancy. The other method is evolution of really beneficial educational system based on the spirit and philosophy of Sarvodaya, preached by the Father of the Nation. This process which proved successful in liberating India from the yoke of British imperialism, though slow, will yield steadily everlasting concrete results. After ninety years of struggle for independence on the altar of which hundreds of Indian youths have been sacrificed and for which thousands of Gandhi's disciples have dedicated their whole lives, a few of whom are still alive to see with burning heart and helplessly what we have made of independent India during the last three decades. We must always honour the essence of human life i.e. individual liberty and go ahead.

with Indian culture and civilization which have developed through centuries of her history. Whether India honours and strengthens individual liberty intercombed with self-discipline and voluntary self-sacrifice for the good of all and pays real tribute to the Father of the Nation through evolution of a healthy and constructive pattern and programmes of education essentially based on Gandhian philosophy, but in context with the present human progress and international developments as well as the future of the world as we may visualize, as best as we can, will depend upon the programmes she undertakes in the coming years. The goals and directions in which the developing nations of the third world should reconstruct their educational pattern and programmes are enunciated in the author's book 'Restructuring Education in Developing Nations' which may be considered by educational thinkers and planners in this greatest democracy of the world.